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The #1 Computer Game Magazine

January 1994
Number 114



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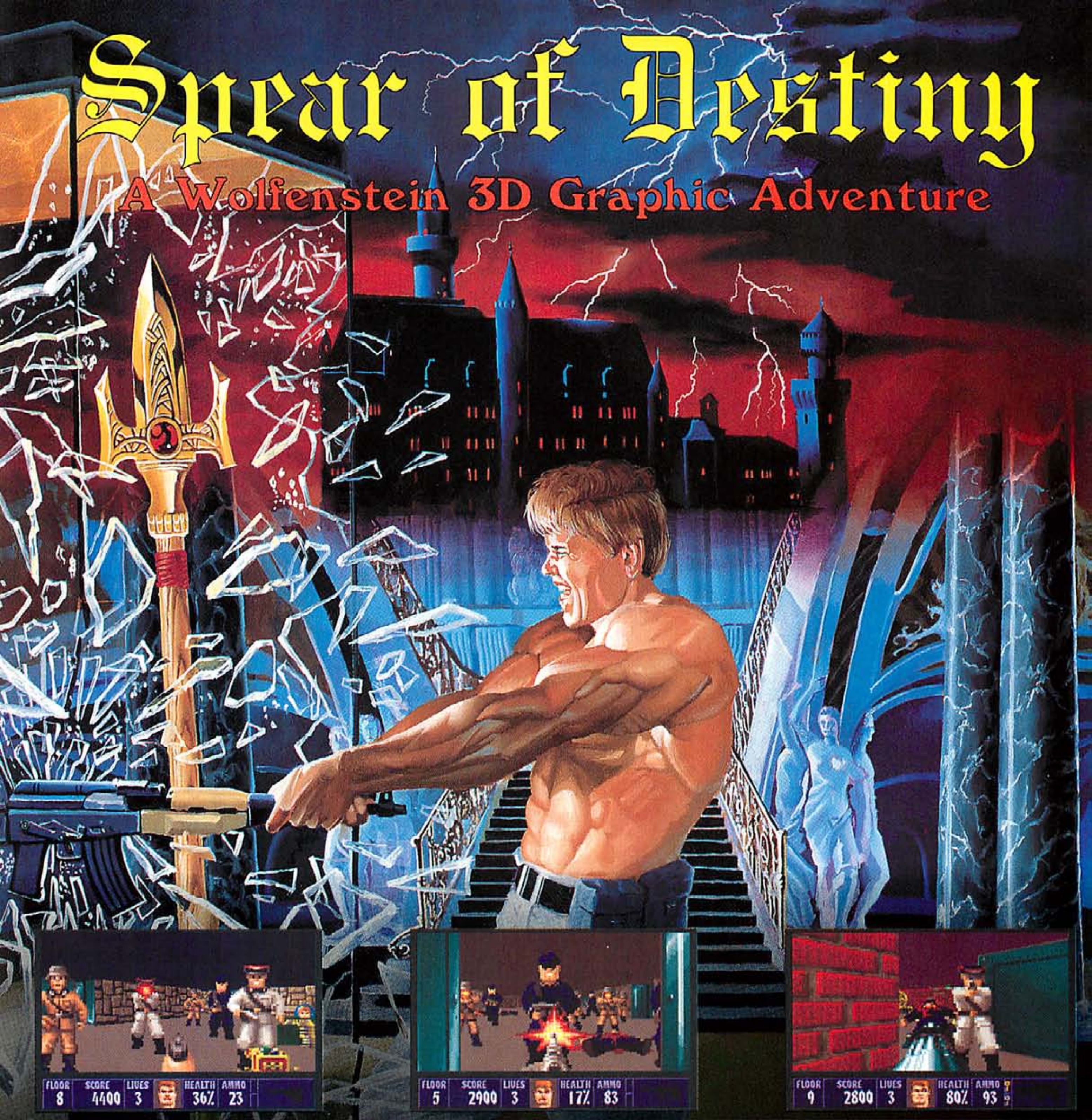
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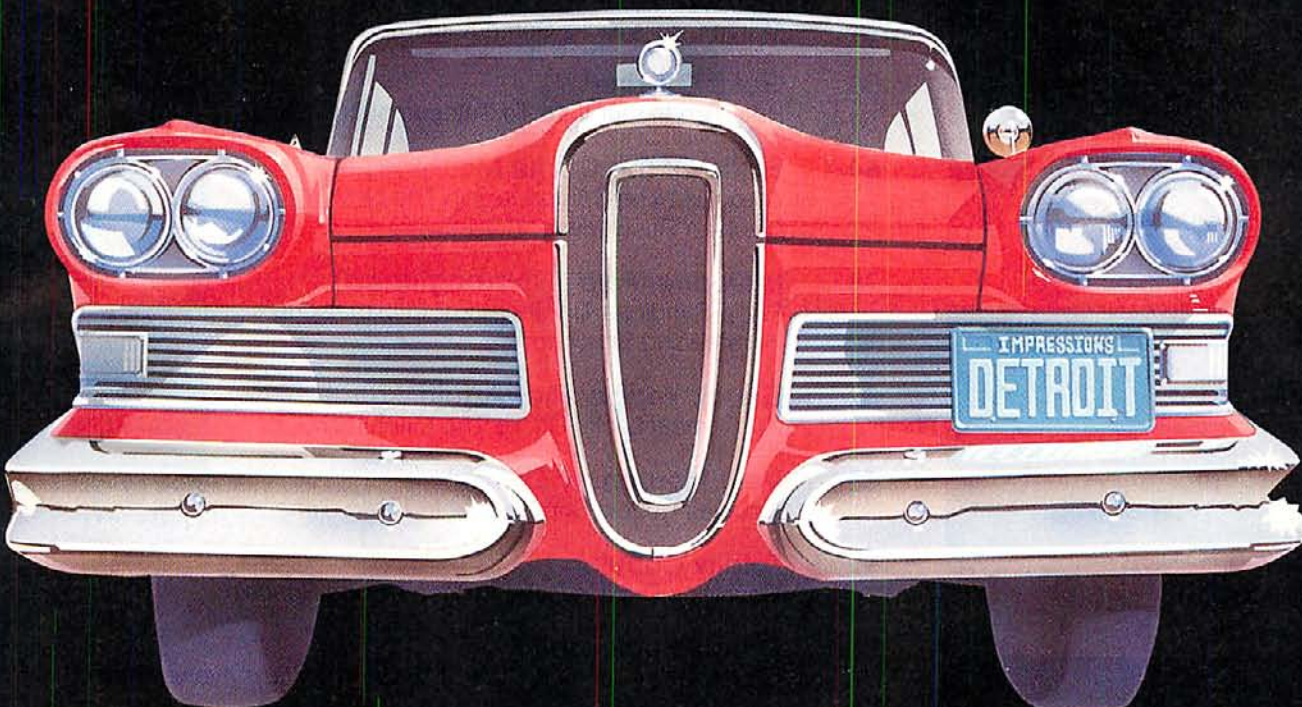
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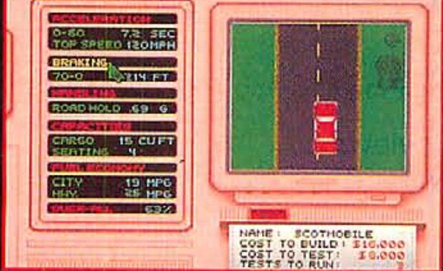
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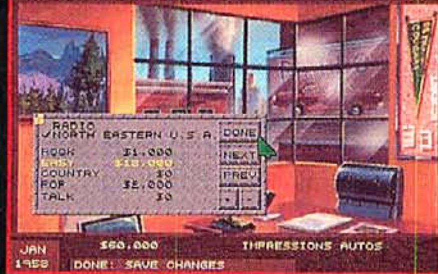
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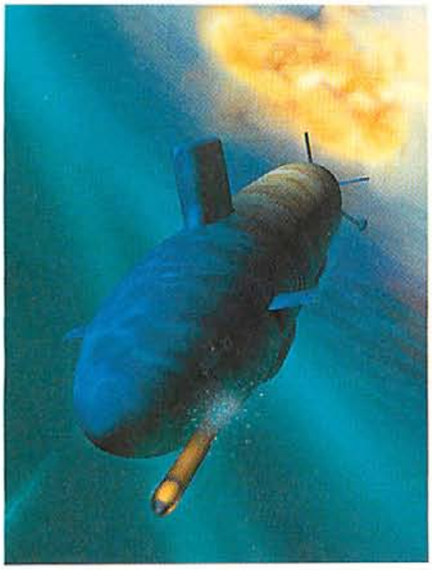
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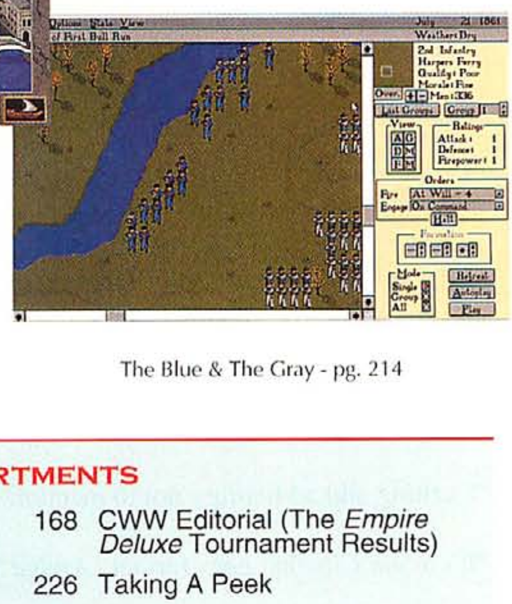
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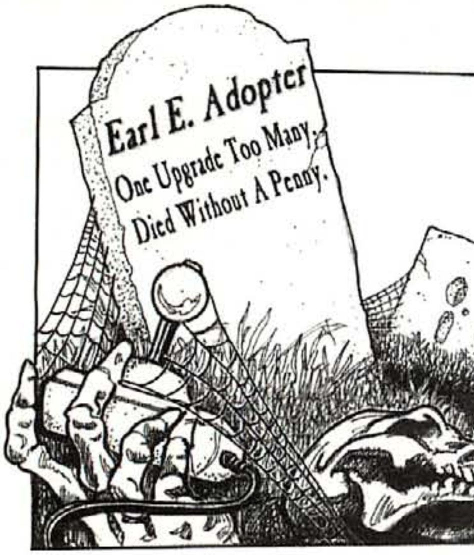


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DEPARTMENTS



DEATH OF THE EARLY ADOPTER

Is The Software Industry Driving A Species Of Gamer To Extinction?

by Johnny L. Wilson

At two recent conferences where the future of interactive entertainment was being discussed, I overheard an unfortunate misstatement. At both the Fall Conference of the Software Publishers Association and Intertainment '93 (where those working on interactive television, location-based entertainment and computer games came together), panelists who intended to speak of "early adopters" spoke of "early adapters." Now, at first, this didn't seem to make much difference. After all, they were still speaking of those brave pioneers who buy the first machines, try out the next generation of hardware add-ons, and buy the new software as soon as it hits the shelves. Yet, I would contend that the misstatement is as significant as the difference between the term "volunteer" and the word "victim."

When a hardware manufacturer or software publisher speaks of a potential customer as an early adopter, they are saying that the customer is the type of pro-active opinion leader willing to make a risky purchase in order to experience or accomplish something new. The term implies that the adopter is willing to nurture a new technology and help it develop in order to reach a higher plane of performance and excitement. It implies that the early adopter is willing to put up with some inconvenience in order to advance the state-of-the-art. It is an almost altruistic action in that regard. Almost, that is, because there is a certain form of self-interest in being among the first to have something new.

Be that as it may, the connotation of an early *adapter* is one of "survival of the fittest." I get an almost cartoonish picture of Darwinian evolution in that designation. The very term assumes a flexibility on the early adopter's part that may be quite unfair. As an early adapter, I may be willing to put up with the hassle of tracking down an IRQ conflict in order to put both a sound card and modem into my computer. As an early adapter, I may be willing to experiment with all sorts of memory configurations in order to run the latest and greatest new program. As an early adapter, I'll learn about DMAs and CD-ROMs.

Why? Because as an early adapter, I am THING-oriented. I love to tear down things to their gut-level. I love to play with hardware conflicts and experience software bugs. It makes me feel superior to wimpy little computer gamers (like a certain editor who hates trying out new cards and installing new modems, monitors and mice) who whine about a few inconveniences.

So, now I can hear everyone asking, "What's wrong with that? That's the way things have always been!" The problem is that the early adopters are getting so tired of being treated like early adapters that they are beginning to wonder why they have to be penalized for being the pioneer. They buy enough single speed CD-ROM drives to get a reasonable installed base of CD-ROMs. Sales start to pick up on the early generations of CD-based games. Then, we start to hear publishers talking about whether to require double-speed and recommend triple-speed CD-ROM drives for their next products.

Talk about chutzpah! The first generation of multimedia games hasn't even begun to reach its full potential, and the software publishers are already trying to figure out how to get the hardware to solve problems that game design and software engineering should solve. Frankly, if software publishers do not provide more value at each stage of computer technology leaps, I doubt that the numbers of early adopters will continue to increase. Instead, I think that they will decrease as more and more hobbyists take on a "Show me!" attitude.

Then, the industry suddenly ends up with a shrinking population of opinion leaders, just when the opportunity for reaching the mass market is arriving. Think about it. Some poor soul sees an intriguing game on her friend's monitor. She asks the friend if she should buy it and the friend says, "Oh, no! Not without a Pentium-based computer, a triple-speed CD-ROM, a 16-bit sound card, and 12 MB of RAM." The poor soul decides that playing on the friend's computer is good enough. Play this scenario often enough and the market shrinks decidedly.

Now, what would I do if I had to put my money where my word processor is? I would make sure that my development teams were optimizing the capability of established technology, even as they continued to push the edge on new technology. It is better to woo an early adopter into an upgrade by showcasing the new technology than it is to arbitrarily force an upgrade because programmers only want to work on the latest and greatest machines.

Such a suggestion is, of course, an oversimplification. If implemented, however, it would go a long way toward assuring the early adopters that they are not being taken advantage of because of their adaptability. Rather, it would suggest that we are partners in advancing the art of computer games, nurturing risk takers on both sides of the fence. I hope that we will reach the point where it is no longer necessary to use technology in a game or to require certain hardware plateaus simply because they are there. I look forward to the days when technology becomes so effective in presenting the gaming experience that it becomes as transparent as the projector in a movie theater. Unfortunately, that will never happen as long as this industry presumes on gamers' adaptability. CGW

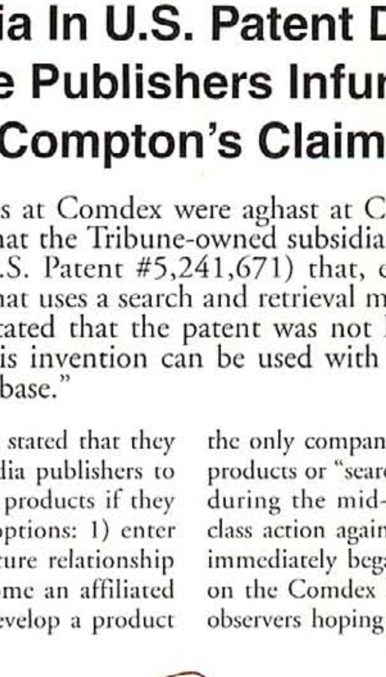
READ.ME

THE LATEST NEWS FROM THE GAMING WORLD

Multimedia Belongs to Compton's NewMedia In U.S. Patent Decision: Software Publishers Infuriated At Compton's Claim

Press and attendees at Comdex were aghast at Compton's NewMedia's announcement that the Tribune-owned subsidiary had been granted a broad patent (U.S. Patent #5,241,671) that, essentially, covers any multimedia product that uses a search and retrieval mechanism. The patent decision specifically stated that the patent was not limited to Compton's products, rather "...this invention can be used with any information that can be stored in a database."

Compton's NewMedia stated that they will allow other multimedia publishers to continue publishing their products if they will choose one of four options: 1) enter into a strategic joint venture relationship with Compton's; 2) become an affiliated label of Compton's; 3) develop a product using Compton's SmarTrieve technology (the actual engine on which they were granted the broad-based patent); or 4) comply with a royalty structure (immediately start paying a 1% royalty to Compton's, eventually to be raised to 3%).



Compton's NewMedia executives Stanley Frank and Norman Bastin believe that they are the first to conceive of the genre we now know as multimedia. They claim that their initial idea for a multimedia encyclopedia came in 1985 and that research and development began in 1986. Previous CD-ROM products were text-based products that used simple Boolean logic to handle the search function. Frank and Bastin claim that they were the first to integrate graphics with the text, as well as a more complex search function for scanning interrelated databases.

Reaction among the software industry has been one of intense disbelief and anger. Developers and publishers alike insist that Compton's NewMedia was by no means the only company working on multimedia products or "search and retrieval" functions during the mid-to-late 1980s. Talk of a class action against Compton's NewMedia immediately began to circulate informally on the Comdex floor with many industry observers hoping that Microsoft and other industry giants will use their legal muscle to challenge Compton's claims.

Time Warner Interactive Group's Stan Cornyn reacted angrily to the patent grant. Cornyn was quoted in the *Los Angeles Times*, saying, "It's like trying to patent a watermelon." Many industry observers believe that the ruling is so indefensible it will precipitate changes in the way the U.S. Patent Office considers software patents. Most believe that the secrecy surrounding the patent process meant that the rest of the industry had no opportunity to bring counter-claims or challenge the assertions of the applicant.

If Compton's requirements for compliance with their patent rights is observed, it will mean a higher cost to consumers in terms of: 1) a Nintendo-esque control of the current market for multimedia products, 2) charge-through at retail for the royalties expected by Compton's; and 3) additional charges and questions pertaining to "search and retrieval" functions with regard to the data highway.

ROM On The Run: Blockbuster Now Offers CD-ROMs For Rent

Beginning November 9, 1993, Blockbuster Entertainment Corporation began renting and selling CD-ROM entertainment software and hardware (computers excluded) at 52 Blockbuster Video stores and five company-owned music stores in the San Francisco area. Plans are to expand these offerings to all company-owned stores by November 1994. Involved in this initial test are Apple Computers, IBM, Panasonic, Philips Electronics and Sega. Apple and IBM will participate on the computer front while the three other companies will cover the console category with Panasonic's 3DO, Philips' CD-I and Sega CD.

Blockbuster's CD-ROM categories include games, reference works, educational titles, business applications, music and movies (in VideoCD format). CD software rentals, which begin at $4.00 per title for three evenings, will allow consumers to experience the benefits of CD-ROM technology without the high initial costs associated with it. If Blockbuster is successful, watch for more rental chains to follow suit.

Rosetta Translates Into Custom Joystick Controls

Rosetta Technologies has announced a new programmable chip set that would enable all software publishers and joystick manufacturers to integrate custom controls with standard joysticks. The Rosetta Pilot EZ1000 chip set provides software publishers with an input device standard and all necessary APIs (application programming interfaces), including source code. On the hardware side, they are providing hardware manufacturers with a core technology which includes their custom chip and up to eight buttons per device. Devices can be daisy chained and buttons can be custom programmed via templates and Rosetta's graphical user interface program.



What this means to consumers is that programmability of joysticks will be taken from a niche market and provided through the range of joystick products. Furthermore, programs which support Rosetta technology will be able to detect what joystick is installed, via a protocol, and download said program's button code to the stick, transparent to the user. TSRs that waste precious CPU resources or RAM will no longer be required.

While it all sounds like what Thrustmaster has done with their Mark II Weapons Control System, the difference is that Thrustmaster is high-end equipment, dedicated to one manufacturer. Rosetta technology, according to Gerald F. Boudreau, CEO, will be originally equipped in many leading joysticks. In other words, many people will be able to afford programmable functionality from low end to high end products, all supported by one set of APIs.

For the game developers, this means that they don't have to support each programmable joystick device put on the market (at their discretion), thus hopefully avoiding the driver nightmare that exists with today's sound cards.

The joystick would plug into the analog joystick port on the computer, with another cable plugging into the keyboard connector. Programs supporting Rosetta would not need to poll the joystick for button presses. Polling is where the program awaits a button press to carry out instructions. It can take up a lot of CPU resourses. By having interrupt-driven buttons on the joystick (like a keyboard), there is no need to have program polling while the joystick is in use.

Founded by Thomas Taylor, creator of M/Sound, the company has excellent credentials. Not only was M/Sound's DSP technology sold to Sierra Semiconductor (see December's READ.ME), but their APIs were used in Microsoft's Multimedia Extentions for Windows. After working with M/Sound, Taylor wanted to work on something that would make computers easier to use. He founded Rosetta Technologies, to provide intuitive input devices using common sense solutions.

Kraft is one of the first manufacturers expected to have a joystick that takes advantage of this technology, for a street price of about $100.



Time Warner Performs A Little Sorcery: Inks New Agreement With Software Sorcery

In line with the current trend of major media acquisitions, partnerships and strategic alliances, Time Warner Interactive Group (TWIG) has announced a publishing agreement with Software Sorcery (the developers of Jutland) to round out their CD-ROM game offerings with three new titles: *AEGIS: Guardian of the Fleet*, *Fantasy Fiefdom* and *Dead Zone*. Software Sorcery's James R. Jones III, president and CEO, expects Time Warner's distribution muscle to help get Software Sorcery's games on every CD-ROM platform.

These new titles extend TWIG's product offerings to include several genres. *AEGIS: Guardian of the Fleet* is a modern naval warfare simulation focusing on the AEGIS-class cruiser. *Fantasy Fiefdom* offers the gamer a detailed role-playing experience set in Medieval England and a personal quest for Knighthood. The third title, *Dead Zone* is an action-packed graphic adventure set in a space salvage station. As in Software Sorcery's *Jutland: Ships of Steel, Men of Iron*, detailed graphics and digitized audio will spice up the action.

Hard Disk Crashes: Roland/Adaptec Owners Beware

CGW has been notified that two companies have had problems with installation programs that poll for the Roland card. When computer owners have a CD-ROM drive that uses an Adaptec 1542 SCSI connector, the Roland code will actually cause the root directory to either disappear altogether or create a subdirectory that causes the computer to go into a continuous loop. Most of the problems are repairable through Norton Disk Doctor, but gamers with both Roland sound cards and Adaptec SCSI controllers are urged to beware of programs that poll for the sound card during the installation process. It might save them a lot of grief to install manually.

You're outgunned.
On the run.
Stalked by a relentless robotic assassin.

You're desperately searching every dark corridor on a deserted spaceship for DNA keys that reveal how to destroy this mechanical killer. Because only then can you disarm the ship's weapons and save the universe before it's blasted into oblivion.

The critics think this futuristic nightmare is a dream come true.

New Media says it's "more than a great game--it's sci-fi space opera and film noir at its best." *Wired* raves that "Helix is a stunner." And that it has the "gun-to-your-head urgency of an arcade game." So you know it's not another CD-ROM game that crawls.

We like to think of Iron Helix as a futuristic hunting game. Only you're what's hunted.



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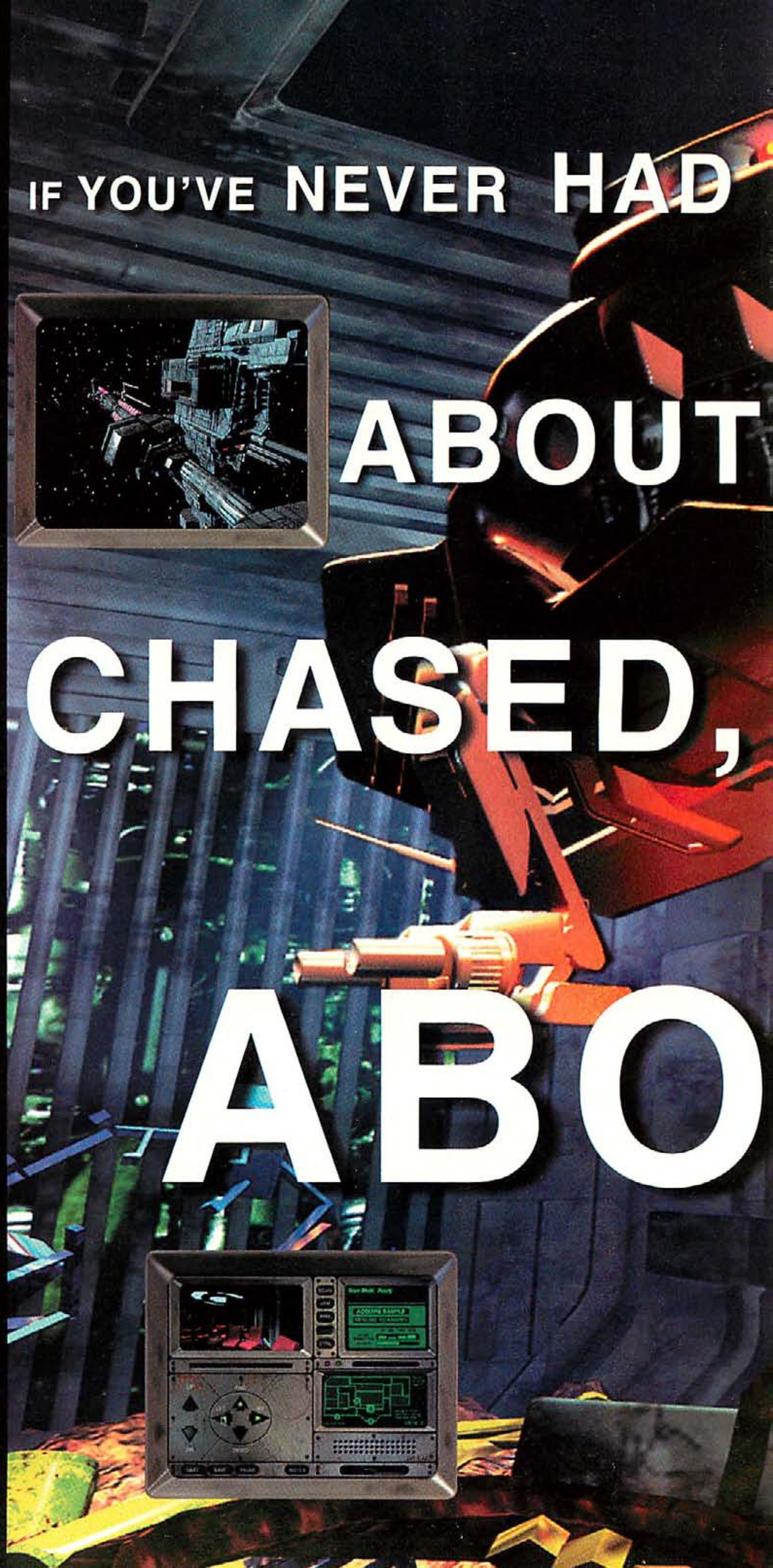
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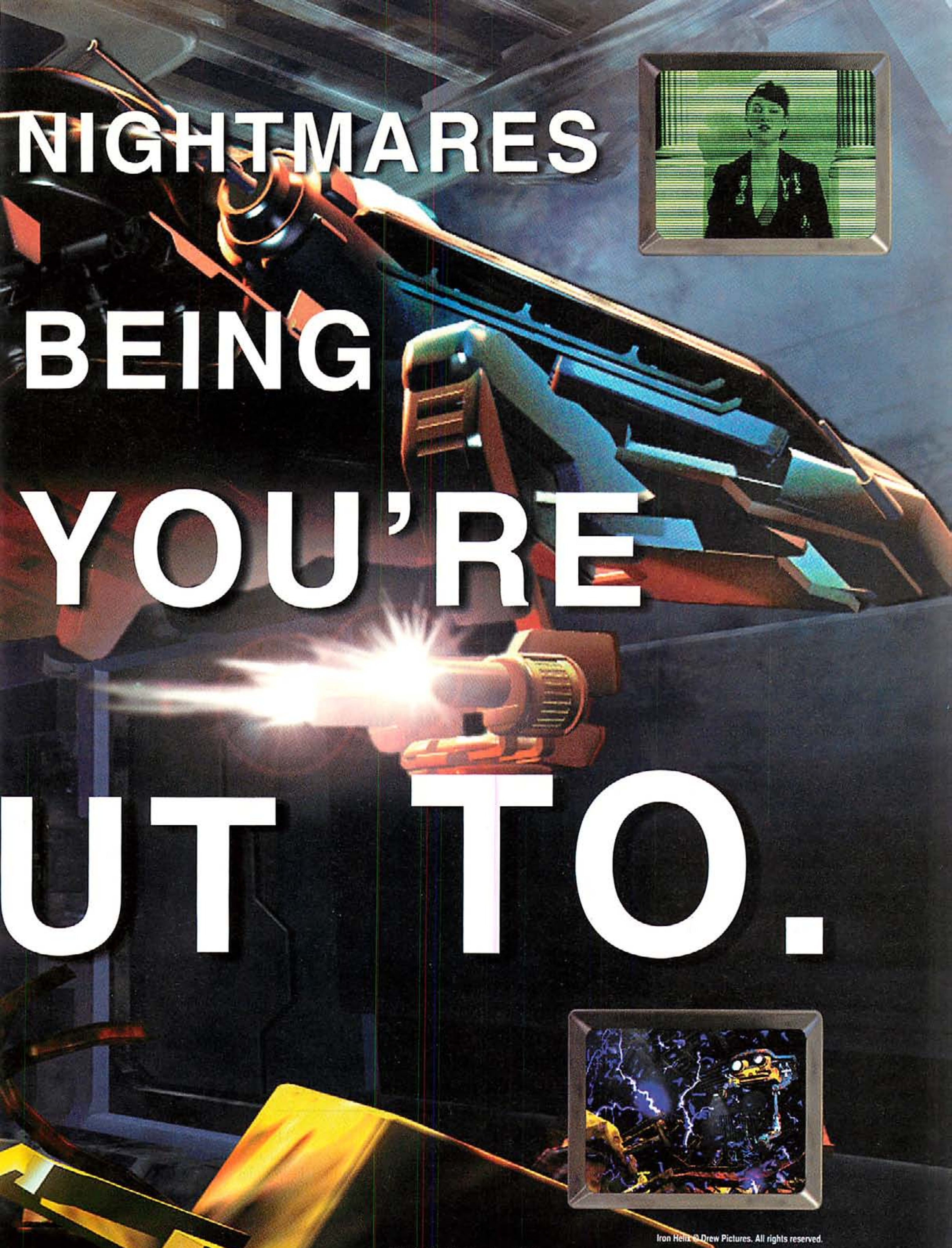
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Assassins Of The Sea



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SNEAK PREVIEW
Game Still In Development

Seawolf Makes A Stir In The Simulation Sub Culture

by Kevin Turner

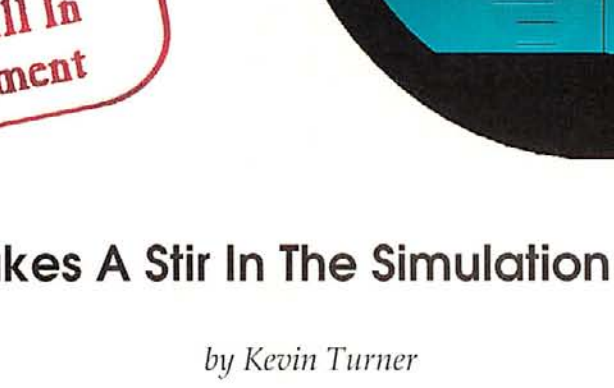
Kevin 'Sumo' Turner (IC1 SS/DV) is a former submariner, former DSRV crewmember, and former Navy diver. After a decade of naval service, he has almost returned to normal.

Though my submariner days are behind me, I sometimes wake up in the middle of the night with a flashlight and a clipboard in my hands, taking readings on my microwave. Submarining gets under a person's skin, and although I now glow in the dark and walk with a hunched back, I still like to get back to the glory days with a computer simulation. Unfortunately, I have found myself in a wasteland of submarine sims. There are flight sims, tank sims, helicopter sims, even ground warfare sims, but there are very few nuclear-powered submarine sims out there for those of us who crave such things. I have been a long-term devotee of *Red Storm Rising*, since it is by far the most accurate depiction I have come across, but there is a new sim on the sonar screen, and it promises to satisfy the cravings of myself and other hunchbacks like me.

The simulation is *Seawolf SSN-21* designed by **Electronic Arts**, the same folks that brought us *688 Attack Sub*. The common assumption is that *Seawolf* is a sequel to *688*—but this does *Seawolf* no justice. It is a modern sim in every sense of the word, with peerless graphics and fantastic sound wrapped around a game that is hard to walk away from.

Multi-player Submersion

Seawolf is designed for a 386-33MHz computer with four megabytes of RAM, and it will support both modem and network play. Ah, the possibilities! Imagine stalking the cold, dark depths of the VGA sea in pursuit of another *Seawolf* skipper across the country, or across the hallway. I wasn't able to test this aspect of the game, but the design team seems intent on making the multi-player possibilities a central feature.

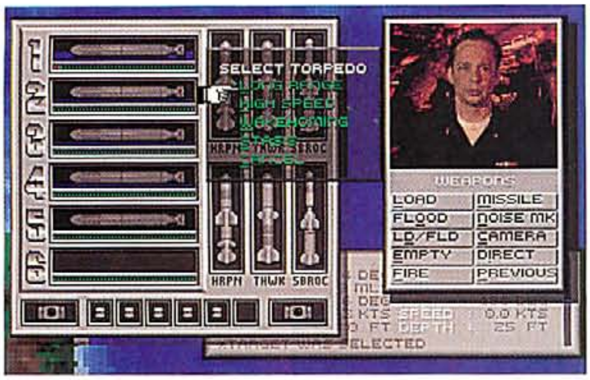


The designers went as far as making a stormy day complete with lightning and thunder... the attention to detail was thoroughly impressive.

The game's introductory sequence flaunts its incredible graphics. The rolling undulation of the sea is perfectly simulated, and the ships are accurate renderings; the helicopters fly and missiles launch with outstanding clarity. The designers went as far as making a stormy day complete with lightning, in which you hear the thunder clap several "alligators" after the flash! I cannot speak highly enough of the graphics; the attention to detail is thoroughly impressive.

As the opening comes to a halt, you are left with the prospect of fighting any number of combat missions or leading a campaign. The version I reviewed had 33 different missions ranging from coastal defense to interdiction abroad. The individual missions vary in their starting points so as not to be repetitive; the descriptions might be the same (blow up two subs), but the Seawolf and the enemy will not be in the same place every time the game is played.

The campaign is based on a civil war in Cuba, in which the Russians use their navy to keep Fidel Castro supplied, and follows the impending escalation of hostilities. The missions start off the coast of Cuba and progress



up the eastern seaboard across the Atlantic. From the North Sea, the Seawolf travels through the Mediterranean to the Indian Ocean, over to the Far East, and then through the Pacific via Hawaii to Southern California. Seawolf certainly gets around.

While on this campaign, you can step into the radio room and watch the news, giving you a perspective on the progression of the war. As more missions are completed, you can see how you are contributing to the general war effort, and your battles appear in much of the footage used.

Beyond the graphics, one of the first things to impress me was the nature of the initial missions: intelligence gathering. This is what submarines do second best, and do the most, and the first missions are an accurate description of what a submarine would be doing before the outbreak of hostilities. My reality-oriented side enjoyed this mission very much.

Assassins Of The Sea

The design theory behind *Seawolf* is to penalize the player for poor judgment and reward good tactical decisions. In other words, the fewer mistakes made, the better odds of success.

Tactically speaking, submarines are the assassins of naval warfare. The height of submarine warfare is not only to send one's opponent to Davey Jone's locker, but to have their last thought be "where did that come fr...?" Consistent with that thought, keep in mind that the chief enemy of any submarine is another submarine. Failure to honor a surface threat before all others, and to clear baffles often will result in a torp up the tailpipe, so to speak. As we say in the submarine service, there are only two types of ships: Submarines and targets.

Second to graphics, the single most impressive feature of the Seawolf is its sonar suite. This is where my heart was thoroughly captured. The sonar uses a waterfall display identical to those used in actual submarines. Waterfall displays give a graphical representation of sound, depicting where a sound is in relation to the boat and its relative strength compared to other signatures in the water. It provides both the real-time and historical bearing data needed to identify a target. I spent as much time in the sonar suite as I did in the top-down map. It was fun spinning around the ocean, dialing in the hydrophones and watching the underwater world go by. You can even hear whales singing!

Submarines have no eyes, so sound is the only way of knowing what else is in the water. The "towed array" is a long cable that strings out from the back of the sub and enables the sub to listen behind itself. In *Seawolf*, the towed array is critical in keeping a good track on all possible threats in the operational arena. Losing the towed array severely limits the Seawolf's ability to detect and track long range targets, and adds significantly to its vulnerability. This isn't necessarily realistic, as the lack of a towed array in no way disables the operation of the sonar dome, and we got by just fine with that before the days of the towed array.

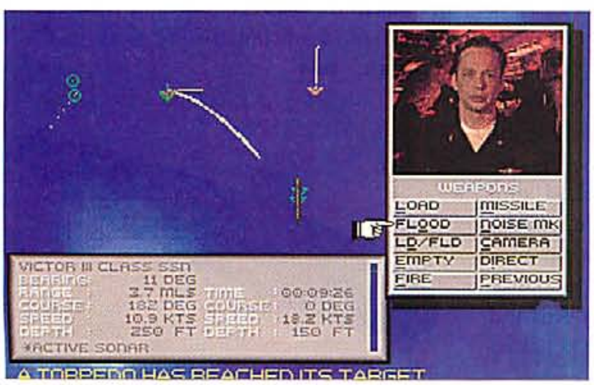
The target plot is displayed in a top-down, or geo display. Target tracks can be turned on and off at will, which is convenient while strategizing; you need that historical data to plot a sound attack. As targets are found, data is collected until target identification is made. Fast recognition can mean quite a difference when a boomer is approaching launch coordinates. Based on the geo display data, it is possible to plan and execute an attack that will leave the Seawolf unscathed. The representation of the Seawolf in the geo display is confusingly large, and if one uses the scale of the maps as a reference, the Seawolf is at least two miles long. This will, I hope, change in the release version to a simple "you are here" symbol. The other problem is that the indicator of depth, speed, and course for both the Seawolf and the selected target takes up too much of the screen. This indicator panel can be moved around, but I feel that a much smaller indicator is called for.

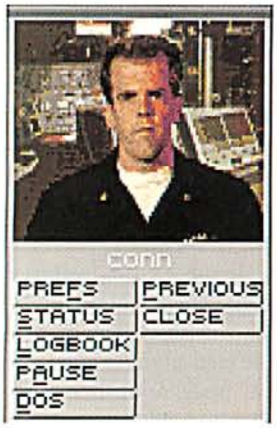
As for the actual driving of the boat as it drills holes in the water, the use of waypoints is used to minimize actual time spent maneuvering and allows the tactical mind to be free. This feature is firmly based on reality, as the skipper serves neither as helmsman, planesman, nor quartermaster. His job is the big picture. Headings can be given, but waypoints are convenient and I thoroughly enjoyed telling my quartermaster and Officer of the Deck to "put me here." The disadvantage to this surfaces in the occasional close quarters fight. Here, using waypoints is cumbersome when compared to ordering the helmsman to apply right full rudder as one lines up a snapshot. Depth control is given by telling the Diving Officer to surface, go up a thermal, down a thermal, go to test depth, go to attack depth, or go to crush depth. I cringed when I first saw this means of controlling depth, but it is easy to adapt when you can jump into the sonar room with the ping jockeys and watch what pops up with a depth change through a thermal. Speeds are set in fourths, and there are no backing bells. Test depth is 1400 feet, and crush depth is 1500 feet. Flank speed is 62.8 knots, which requires some suspension of belief.



Second to graphics, the single most impressive feature of the *Seawolf* is its sonar suite.

For those of us who are familiar with *688 Attack Sub*, the three dimensional feature is back, giving a graphical display of who is where at what depth. This is especially useful when trying to hide your sub in canyons on the ocean floor. I have not gotten used to this 3D feature, but it does increase playability,













and so I will go along. For those who do not know what the three dimensional display represents, pretend that you are hovering over an aquarium looking down. This is the geo display. Now look in the side of the aquarium. This is the 3D display.

Stormy Weather Ahead

On every parade a little rain must fall, so here comes the clouds. The weapon representations are poor at best and do no justice to every submariner's favorite toy, the Mk. 48 torpedo. Using a Mk. 48 is an art form, as its proper use will kill the target while allowing the shooter to remain undetected. It is a wire guided weapon with excellent capabilities, and it is the mainstay of the submarine fleet. Missiles are all fine and dandy, but the big green fish with the flat, black nose and the long wire tail is every submariner's best friend. In *Seawolf*, there are long range torpedoes, short range torpedoes, stasis torpedoes, and wakehoming torpedoes. The long range torpedoes travel long distance, but are painfully slow. The short range torpedoes travel fast, but you must be in close proximity to the target. The wakehoming torpedoes act like submerged Sidewinders, and home in on the wakes of surface targets. The stasis torpedoes are still a mystery to me.

Weapons also include the Tomahawk, Harpoon and Subroc missiles. You must be careful when using the missiles, as the firing procedures are different from those for torpedoes. I decided to set up a weapon for launch, selected a Tomahawk, and the next thing I knew a weapon was on its merry way to ruin someone's day! The missiles are almost too easy to use on surface threats.

Another problem I encountered was in the enemy logic. While shooting a torpedo at an enemy frigate, the enemy ship never turned around to investigate the source of the weapon, nor did it seem to care that I was trying to kill it. None of the other ships in the area seemed to mind my using weapons either. I thought that perhaps the skipper of that ship was just downright incompetent and disliked, so I tried the same thing on another enemy ship. There was still no response. Whether using torpedoes or missiles, none of the other enemy vessels ever changed course. This made my firing point solutions



Based on the data on the geo display, it is possible to plan and execute an attack that will leave the Seawolf unscathed.

easy. The only vessels that posed a real threat were other submarines, and these boats were using active sonar for ranging! Using active sonar is like playing Russian Roulette with an automatic pistol. There may only be one bullet in the gun, but there only has to be one bullet in the gun. There is a reason that submarines are called the "Silent Service."

Another problem lies in the lack of cavitation and cavitation curves. Cavitation is the noise and turbulence spinning propellers create. A full-throttle start from a dead stop creates a huge amount of cavitation, and the resulting noise would alert the world to a sub's whereabouts. There should be significant penalties for traveling at high speeds and shallow depths. I witnessed no such penalties and was disappointed. This is reality, and yes, I know, I could be leaning a little heavy on this. But cavitation is part of detectability, and rule two of the submarine manual clearly states that "Noise is bad." Rule one is "Number of dives should equal number of surfaces."

How Playable Is Reality?

While at Electronic Arts for a brief visit, I spoke with the designers of the game and discussed the yin and yang of game design—reality versus playability. The reality of a game is based on cold, hard facts supported by available documentation. The playability of a game is a based upon a designer's knowledge of what makes a game fun and engaging. Reality and playability must work together, sometimes at a detriment to each other, to benefit the whole. In the case of *Seawolf*, the designers have, for the most part, made good choices in the playability vs. realism debate. In all fairness, I am sometimes overly critical when reality is sacrificed for playability's sake, but I must say that I was very entertained by *Seawolf* despite my occasional upturned eyebrow.

I am quite impressed with what I have seen of *Seawolf*. The missions are challenging and varied, the interface is sweet simplicity, and the sonar and graphics sell the package. There are many other positives that *Seawolf* has going for it, and I find myself finding more as I play. *Seawolf* has brought an oasis to the wasteland of submarine simulations, and I am impatiently awaiting for it to surface. CGW



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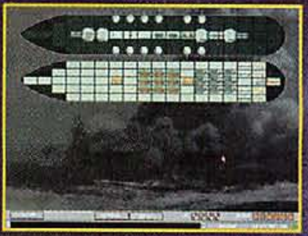
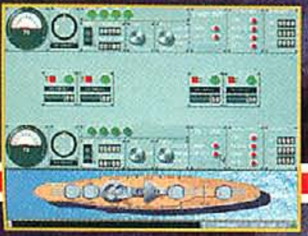
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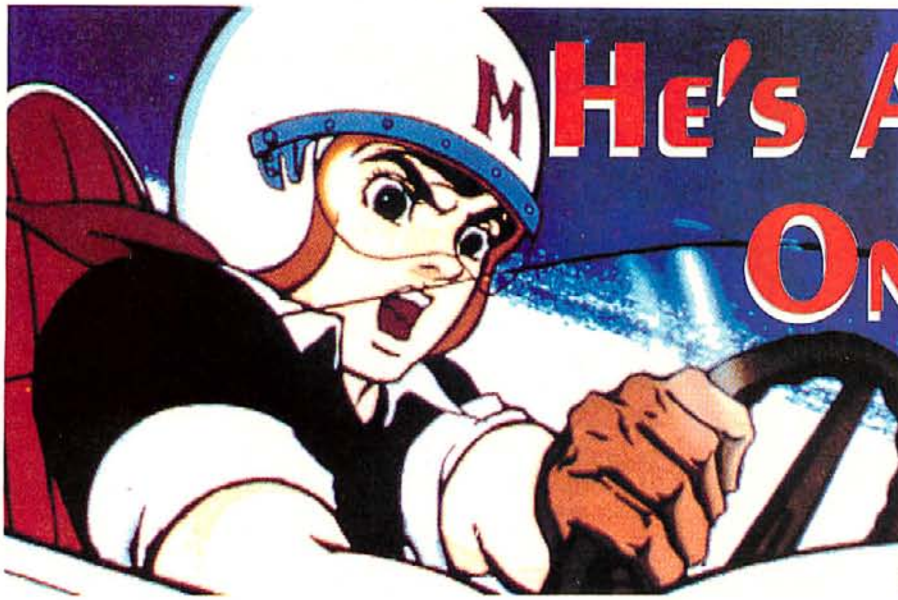
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He's A Demon On Wheels

Accolade's *Speed Racer:* The Winner's Circle Or The Pits?

by Paul C. Schuytema

Pops, mentor of the Go team, dedicated his life to perfecting the ultimate race car—the powerful Mach 5. Now it's Speed Racer's turn to show the world what the car is capable of, leaping over opponents, mowing over trees with whirling saw blades, kicking in afterburner jets for speed, and somersaulting end-over-end through tough traffic.

If only Pops knew how Speed really drives—with the wild and reckless abandon of a teenager with hormones in overdrive, giving little thought to the hours of sweat and toil Pops has sunk into the Mach 5. But Speed puts his foot to the floor every race, his little brother Spridle and monkey Chim-Chim stowed away in the trunk, as he does everything in his power to cream the robotic Melange team, trying to beat his long-time rival Zoomer Slick as well as his estranged brother, the infamous Racer X. With his girlfriend Trixie following his race in a helicopter, ready to swoop down at the first sign of trouble, Speed, in his calfskin gloves and blue polyester shirt and ascot, races with the sense of immortality that only a gifted teenager in a quarter-million-dollar race car can. After all, he has to prove to the world that he's the best driver ever, and that Pops, who has labored long in anonymity, builds the best race cars the world has ever seen.



Accolade's latest licensed venture, *Speed Racer in the Challenge of Racer X,* brings the world of this japanimation cartoon to life in a driving simulator that models the outrageous courses and demonically inspired driving that made *Speed Racer* a cult cartoon hit. *Speed Racer* takes place over six episodes, each with different tracks and races, and multiple levels of difficulty. Speed can race against the villains alone, or in two player mode over a split screen, either on the same computer or over a modem or null-modem connection. Since the quest to complete the racing circuit will take more than one sitting, the games are saved via passwords. Thankfully, *Speed Racer* saves the last used password as a matter of course, so most of the time you will not have to type it in, but you will have to jot down passwords if you ever want to go back and try a previous level.

The look and the feel of the Mach 5 is admirably done, from the seven-button steering hub that controls the multitude of options Speed has at his disposal, to the familiar "whoosh-whoosh" of the spring-loaded auto-jacks. The game is controlled by keyboard, mouse, or joystick, with the keyboard controlling the "optional equipment" that you'll never find listed in a blue book.



In addition to driving the fabled, fin-back Mach 5, you can also drive Racer X's Shooting Star, the low slung yellow speedster that looks like the LeMans cars of the 1960s. Each car has a different arsenal of goodies—the front mounted chopper blades of the Mach 5 and the side mounted hydraulic rams on the Shooting star—and each car can be outfitted with ranged weapons such as rockets or cannons.

Speed Racer in the Challenge of Racer X



TITLE:	Speed Racer in the Challenge of Racer X
PRICE:	$59.95
SYSTEM:	IBM
REQUIREMENTS:	386 or better, 3MB RAM, VGA graphics; supports AdLib Gold, PAS, Roland and Sound Blaster sound cards
PROTECTION:	Documentation look up
# OF PLAYERS:	1-2 (modem option)
DESIGNER:	Tom Loughry
PUBLISHER:	Accolade San Jose, CA (800) 245-7744

The strategic element of the game is very simplistic: amass the points awarded for a good race to buy more and better gizmos for the Mach 5. Each race is set in an episodic context, and learning about the opposition and what dirty tricks they have in mind will give you clues as how to best outfit the car.

The game also features Pops' test track where you can hone driving skills against the opposition without fear of losing any ground in the race to complete all of the game's episodes. Placing well on Pops' track will earn you sufficient points to begin to build up the Mach 5's arsenal.

Pot Holes

While the overall depth and range of options do a decent job of capturing Speed's cartoon racing adventures, the game comes up far short of thrilling in its gameplay and execution.

First off, any computer game enthusiast will laugh at the graphics. While the colors are rich and the backgrounds beautifully rendered, the cars themselves are a joke. Instead of driving, the opposition's poorly-scaled cars seem to float aimlessly over the track, moving in a jerky pantomime of driving that recalls some of the old Colecovision driving games. Although the background is adequately rendered, the sides of the track, with gorges, canyons, and sharp drop-offs, are simple fields of mottled colors, looking like they were added as an afterthought.

Perhaps the most disappointing aspect of this game is the actual driving experience. The game plays more like a coin-op "swerve and dodge" game than any semblance of a driving simulator—even a comical, cartoonish one. The now outdated coin-op *Outrun* and original *Pole Position* would lap *Speed Racer* in a test of "driveability."



When driving the Mach 5, you can see an abbreviated dashboard running along the bottom of the screen and a rear view of the Mach 5 (as in the coin-ops mentioned above). The dashboard is virtually useless, except as a best-guess meter to see if you've got a shot at finishing in one of the top three places in the race (the only positions that are recorded, and it is necessary to place in the top three to move on to the next level of difficulty). Driving consists mostly of frantic swerving and jumping as ridiculous cars hop and bob all over the track. Swerving off the track will only slow Speed down (though if the Mach 5 takes sufficient damage, it will go up in flames and Trixie will have to deliver a fresh one via helicopter). While all of the neat-o extras that the Mach 5 or Shooting Star can be equipped with are nice in theory, the haphazard, epileptic style needed to drive the courses makes it difficult to use and enjoy these options.

Playing the game is much more an exercise in frantic hand-eye coordination with no real need for strategic acumen. The oppositions' cars are too random and too numerous to even allow any real buildup of adrenaline as in the frantic *Outrun* drives. Providing for fewer, more realistic opponents would have put some spark in the game's playability plugs.

The game really shows its weaknesses when Speed drives off the road and over a sloping mountain side. His car just seems to float there, losing speed until he gets it back on track. When the road narrows to a two-lane stretch of twisting highway and the path just ahead is packed with eight or nine jittering cars, all credence is tossed out the window, even for the most forgiving of players. Another feature of the game, which is an attempt to make it more challenging, is that the roadways are littered with countless (and pointless) obstacles including rocks, oil drums, barricades, and other less obvious hazards (such as odd colored sticks). There seems to be no rhyme or reason for the obstacles, some of which cause the Mach 5 to swerve or crash, while others seem to have no effect whatsoever.

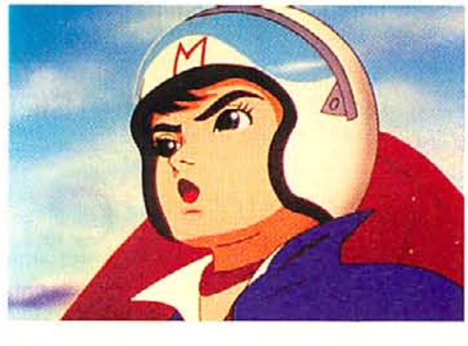
Playing the game in two-player mode adds up to more fun, especially when playing on a single computer (the experience is not really worth the phone charges of modem play), since the two player banter adds to the ridiculous excitement of the game.

In addition to questionable gameplay, the game has several serious bugs, often locking up when an episode is loaded (though, thankfully, it still retains the password). Other times, I was sure I finished in the top three, received the congratulations from girlfriend Trixie and a new cache of points, only to find out that I was nowhere near the winner's circle and had to run the episode again.

I'm not really sure what age-level this game is aimed towards. It will be the 20- and 30-somethings who will remember *Speed Racer* (though the newer generation can get their fill of it on late night MTV), yet the game plays at a level which isn't nearly as sophisticated as some of the Genesis and Super Nintendo carts that teens and preteens play. The price tag and hardware requirements seem to indicate that this game is to be taken as an "adult level" game, which, if that is the case, makes the game even more of an embarrassment for Accolade.



Speed Racer is a game built on a solid idea, and I believe that the producers truly wanted this one to work, to bring the pounding, horn-backed music and racing of the animated series to life on the computer. I think they made the right choice in focusing entirely on racing rather than adding any real role-playing elements, and there were times when I was playing (when the track was clear of annoying floating cars) that I could catapult the Mach 5 over a train intersection as the train hurdled by below, and I truly enjoyed myself and could glimpse what the game might have been. Sadly, though, these were fleeting moments set in a sea of awkward graphics and gameplay, and it was very easy to park this game in the lot of disappointments. CGW





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Me And My Shadows



Scorpia Reveals *Shadowcaster*'s Multiple Personalities

by Scorpia, Adventure Games Editor

Origin's latest release is not the sort of game we've come to expect from them. While the look and interface are similar to the 3D free-scrolling environment of the *Ultima Underworld* series, this one is certainly different from anything they've put out before. Though some may assume that *Shadowcaster* is a role-playing game because of its look and its publisher, Origin is advertising it quite accurately as an action game.

The story that sets up the game is fairly mundane and serves primarily as a launchpad for the action. Once upon a time the gods and all of the creatures of the various dimensions had a special pact with one another. The gods granted certain members of society the ability to share the bodies of other-dimensional creatures. The People, as these body-swapping morphers were called, were able to use the physical advantages of other creatures to compensate for the limitations of their own bodies. Unfortunately, the gods did not grant this power to all people and so, as any Marxist might have predicted, a class war erupted between the "haves" and the "have-nots" which nearly wiped everyone out. Only a few of these shapeshifters remain, and Kirt—a morpher whose family was killed by Veste, god of the "have-nots"—is one of them. His future cannot be foreseen by the gods; it is as though a shadow lies across his fate, hence the title. Kirt's mission is to find and kill Veste before he goes on another rampage.

With this explanation complete, Kirt is thrust into the thick of things, and from that point on, the game is a succession of fights with increasingly tougher opponents. There are no role-playing elements here, no people to talk to, no little quests to do for someone or other, and only a handful of trivial puzzles to solve. It is, quite simply, a "hack your way through from start to finish" extravaganza, familiar to all who have donned the combat boots of **id Software**'s B.J. Blukowski.



Kirt begins as a mere human with the unrealized potential to become other creatures. As he progresses through different areas (which may be comprised of several levels), he gains other forms. This is accomplished by first finding a small red pyramid, and then the obelisk on which it belongs. When the obelisk is whole, Kirt obtains a new shape. Including the human shape, he will have seven forms in all by the time he reaches the end of the game.

In a big departure from traditional RPGs, even the hack-n-slash variety, Kirt has no visible stats at all. There are no values for strength, dexterity, constitution, etc. Experience points *are* awarded, however, and each morph accrues experience separately.

The only attributes you will find here are power and hit points, and these are displayed in two bar graphs at the top of the screen: a blue one for power points and a red one for hit points. Clicking on either the red or blue bar will show the actual numeric value for that bar. There is also a score bar under the character portrait.

The power points allow Kirt to shift to, and maintain, the various morphs, as well as use their special abilities. These points can be restored by resting or by drinking special



potions found throughout the game. However, the "resting" points only come back in the human form, since it takes power to keep up any of the morphs. Power is the same for all morphs; if Kirt has 100 points, that is the most any of them can have.

Hit points are handled a little differently. Each morph has its own hit point allotment, which might be more or less than the human form. These hit points do increase as the morph gains experience, and resting will restore them. Switching forms does not do any healing, but it is possible to "gain" points by changing from a morph with fewer overall points to one with a lot of them. What stays the same is the percentage of injury from one form to another.

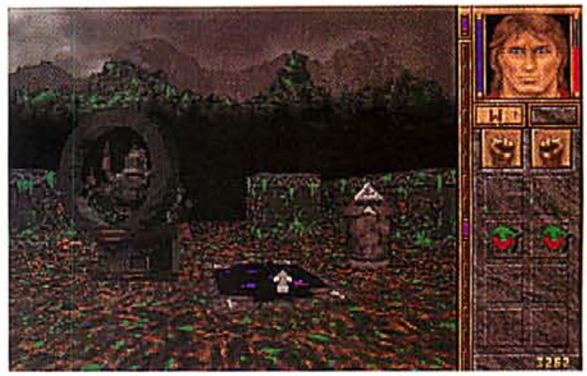


For example, the Caun morph starts with 20 hit points. Suppose Kirt in human form has 100 points. The Caun takes 10 points of damage, which is half his total. Switching to human, Kirt now has 50 points—more than the Caun, but still half his total.



For some time in the game, healing will be a slow process. The potions restore only a small number of hit points, so resting in a safe place, often for quite a few minutes, is necessary. Once the Caun morph is obtained, healing becomes much less of a problem. The Caun regenerates very quickly and has a special ability to boost healing further by using up some power points. Coupled with the Caun's low number of hits to begin with, full restoration is often only a matter of several seconds in most cases.

Unfortunately, the same cannot be said for power points, and this does become a problem in the later stages of the game. As with healing potions, the power potions only renew a handful of points, so standing around



for long periods is the usual method for bringing the power bar up again. Since you'll likely be using morph abilities fairly heavily in the second half, that means a lot of waiting.

This gives *Shadowcaster* a curious stop-and-go feel, composed of frantic fighting followed by long periods of inactivity while health and power come back up again. It stretches out the game without adding any playability or fun to it. Few things are more irritating in a supposed action product than hanging around in a corner for minutes on end to renew oneself.

The good thing is that once monsters are dead, they stay that way, and no new critters are generated. So it's entirely possible (and usually a good tactic) to rampage through a section, killing everything there, and then explore it in a more leisurely fashion while hits and power regenerate. Of course, even with that tactic, resting up from time to time is still necessary.

Fighting itself is straightforward, and rather like that in *Underworld*. The 3D view is much the same, along with the "left button moves and right button fights" controls, so you can go straight at an opponent or try to tango around it. One nice addition, for those who had trouble with this fighting style in *Underworld*, is the use of the space bar as an attack

Shadowcaster



TITLE:	Shadowcaster
PRICE:	$69.95
SYSTEM:	IBM
REQUIREMENTS:	386-33MHz or better, 4MB RAM, VGA graphics, 16MB hard drive space; supports Sound Blaster (Pro) and General MIDI sound cards; and Logitech's Cyberman controller
PROTECTION:	None
DESIGNERS:	Raven Software
PUBLISHER:	Electronic Arts/Origin Systems San Mateo, CA (800) 245-4525

command. The mouse can be used just for movement, while attacks are made by hitting the spacebar with the other hand. Unlike the *Underworlds*, however, there is no "aiming" of physical attacks to a certain height. You simply target the opponent and bash away.

The workings of special abilities—throwing fireballs, lightning bolts, or death blasts—are about the same as *Underworld*. Activate the power, target the critter, and let loose. Positioning is important here. If you're partly behind a wall or corner, a shot may end up being blocked, wasting power. As a rule of thumb, if the monster can't hit you with a fireball (and some of them have that capability), you won't be able to hit it with yours, either.

Each morph has unique powers, but I found myself using only one or two of those at most during the game. As noted above, the Caun is most useful for healing; it isn't much of a fighter and will die quickly in combat.



The Maorin catman is a dandy fighter at the start, but his special infra-red cat sight seemed useless. I never encountered a situation where it was needed or useful.



The Grost, or stone giant form, has the most hit points, is the most physically powerful, and the hardest to damage. Against ground opponents, he is usually the best form to use. However, this morph is susceptible to fireballs, and isn't worth much against critters who can't be injured by melee attack (there are some of those around).



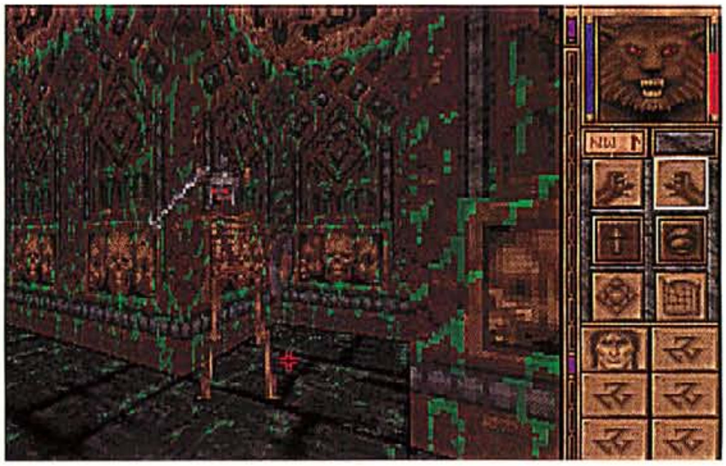
The Kahpa, or the frog-like creature, is most effective underwater. There seems to be no limit to the length of its underwater excursions. Of its two special powers, the sonic blast seemed weak; the lightning attack was much more effective. The Kahpa also fights fairly well, especially if you have found the trident of might.



The Ssair dragon/wyvern form is one of two that can fly, and it can fly very fast, as well as absorb a large amount of damage. This morph can also dish it out, by tail attack or fire breath. The fire breath uses power, so it can't be used too often.



The Opsis, the floating eye, is perhaps the most powerful morph. While it can fly, it feels more like floating, and it moves slowly compared to the Ssair. To compensate for its snail-pace, the Opsis has the death blast. You don't want to be on the wrong end of this weapon—one hit and the opponent is dead, just like that. Of course, this uses a lot of power; after two or three blasts, it's time to restore power points. The Opsis can also



extend the area of the auto-map, which is handy for making sure you haven't missed some obscure part of the level.

Graphically, the game is very beautiful, better in some ways than *Underworld*. While the walls still have a blocky aspect in close-ups, the monsters don't lose definition as they get nearer. Animations are very smooth (at least on a 66MHz machine), as is movement. There is also a megaview, where about two-thirds of the screen is used for the dungeon display, giving a remarkable feeling of "being there."

The underwater scenes, when the Kahpa amphibian is active, are rendered with great skill, and, especially in megaview, can make you believe you're really swimming around. Changes in perspective, as when flying or when in the short Caun form, are also handled very well.

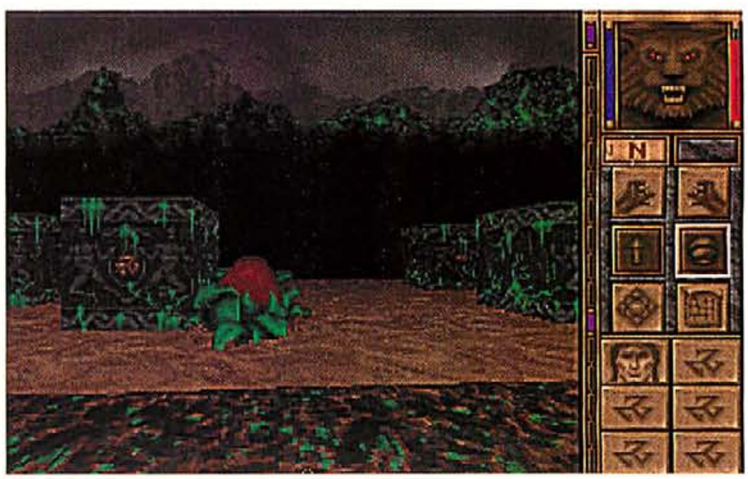
An auto-map is available, with a large view of the immediate area and a small line diagram of the entire area. Clicking anywhere on the small map will change to that view in the large display. The map fills in automatically as you move around, but has some limitations. It can only be used for the area (all levels) you're currently exploring. Previous sections can't be brought up again, and being entirely visual, there is no way to write on it, as with an *Underworld*-style map.

The music was somewhat repetitious, and after awhile I turned it off. I might have preferred a cycling of several tunes to its single, looping tune for each location.

Rather surprisingly, only four save positions are available. Considering how often saving is necessary, and that the save files themselves will just about get up to 300K by the end game, it is amazing more positions were not allowed.

For all the waiting around, *Shadowcaster* is a fairly quick-playing game. It took me only about three and a half days to reach the end game segment, and that was with splitting my playing time with *Simon the Sorcerer* (see my "Tale"). Dedicated players may get there even sooner.

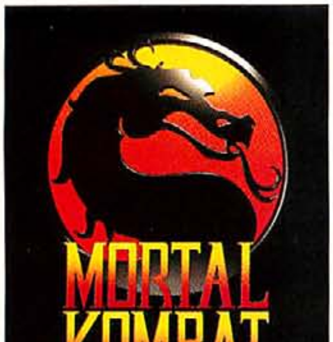
Overall, *Shadowcaster*'s main points of in-

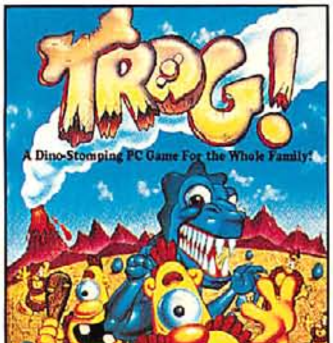


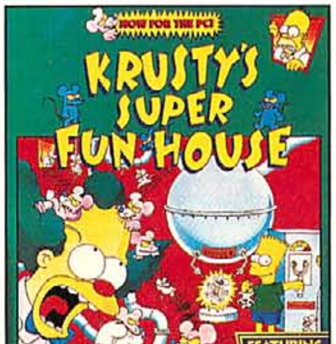
terest are the shapeshifting and excellent graphics. Without those, it would hardly be worth thinking about, since the game is otherwise a pedestrian body-count fest, very lightweight in content. Those who prefer the regular *Ultima* style of role-playing will probably want to skip this one. But players looking for pure, no-nonsense hack-n-slash will have a blast. CGW

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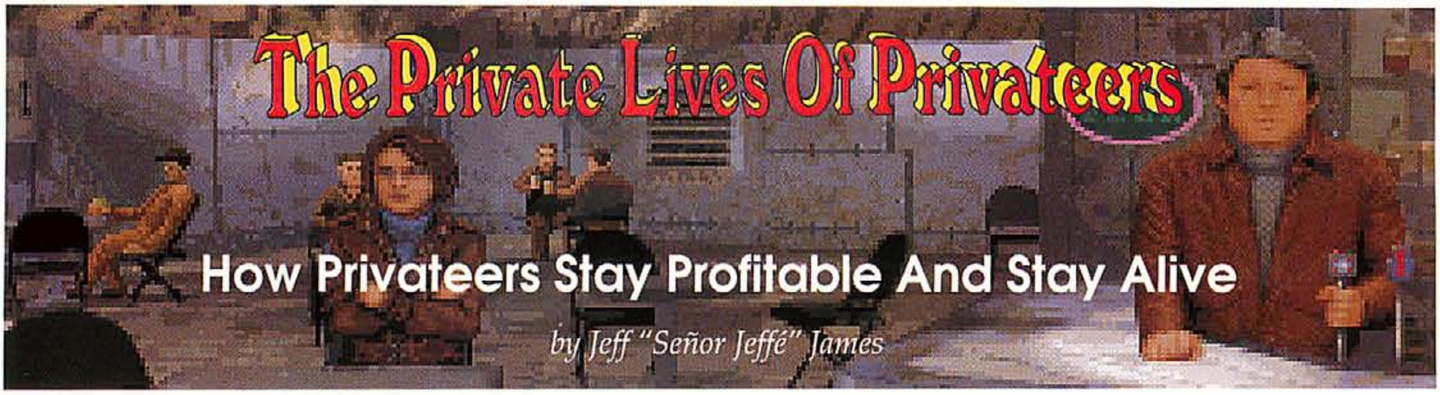












The Private Lives Of Privateers

How Privateers Stay Profitable And Stay Alive

by Jeff "Señor Jeffé" James

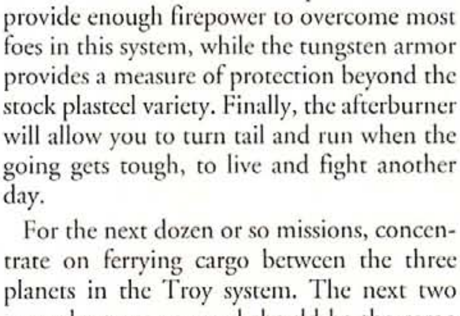
Unlike its predecessors in the *Wing Commander* universe, *Privateer* gives you a chance to exercise your gray matter as well as your hand-eye coordination. In earlier *Wing Commander* games, success was measured by the number of enemy ships blasted and missions flown. *Privateer* takes a less quantitative path towards victory. From lugging cargo across the far reaches of the galaxy to battling enigmatic alien vessels, *Privateer* requires that you juggle the demands of being an interplanetary tradesman as well as a mercenary for hire.

How To Get Ahead In Privateering

The game begins with your character stuck on a mining asteroid in possession of three things: a hand-me-down space vessel, a meager allotment of funds, and an avaricious desire to make a small fortune. There are many paths to success in *Privateer*, but they all share a common thread: getting off to a good start. Here's one route that worked well for the dread-privateer, Jeffé.

After creating a character and saving the game, your character will find himself at the launch pad of base Achilles, gazing upon his trusty Tarsus space vessel. You should immediately go to the ship dealer and sell the laser cannon, missile launcher (w/missiles) and plasteel armor on your ship. After those items are sold, buy tungsten armor, an afterburner, a torpedo launcher (w/10 torpedoes) and one meson blaster. With the remaining currency, go to the Achilles commodity exchange and buy as much iron and tungsten as possible. Exit the commodity exchange and access the mission computer, located in the center of the base. Try to select a single mission, preferably a "defend base" mission at either Achilles or Helen. After accepting the mission, launch your craft and complete the mission granted by the mission computer. After completing said mission, fly to Helen with the load of iron and tungsten. Sell the cargo in the commodity exchange, using the profits to buy as much grain as your ship can carry. Go to the ship dealer and buy another meson blaster, giving you a total of two. With this configuration you should be able to ferry cargo and accept missions within the Troy system. The dual meson blasters and torpedo launcher provide enough firepower to overcome most foes in this system, while the tungsten armor provides a measure of protection beyond the stock plasteel variety. Finally, the afterburner will allow you to turn tail and run when the going gets tough, to live and fight another day.

For the next dozen or so missions, concentrate on ferrying cargo between the three planets in the Troy system. The next two upgrades to your vessel should be the cargo expansion (giving your Tarsus a 150 unit cargo capacity) and a Level 1 engine upgrade. Accept missions only from the mission computer for now; the Mercenary and Merchant Guilds offer more lucrative missions, but they are expensive to join and offer missions outside the Troy system (which requires the addition of a jump drive). Keep accepting in-system missions and ferrying cargo until you can afford to upgrade your Tarsus to an Orion or Galaxy-class vessel.



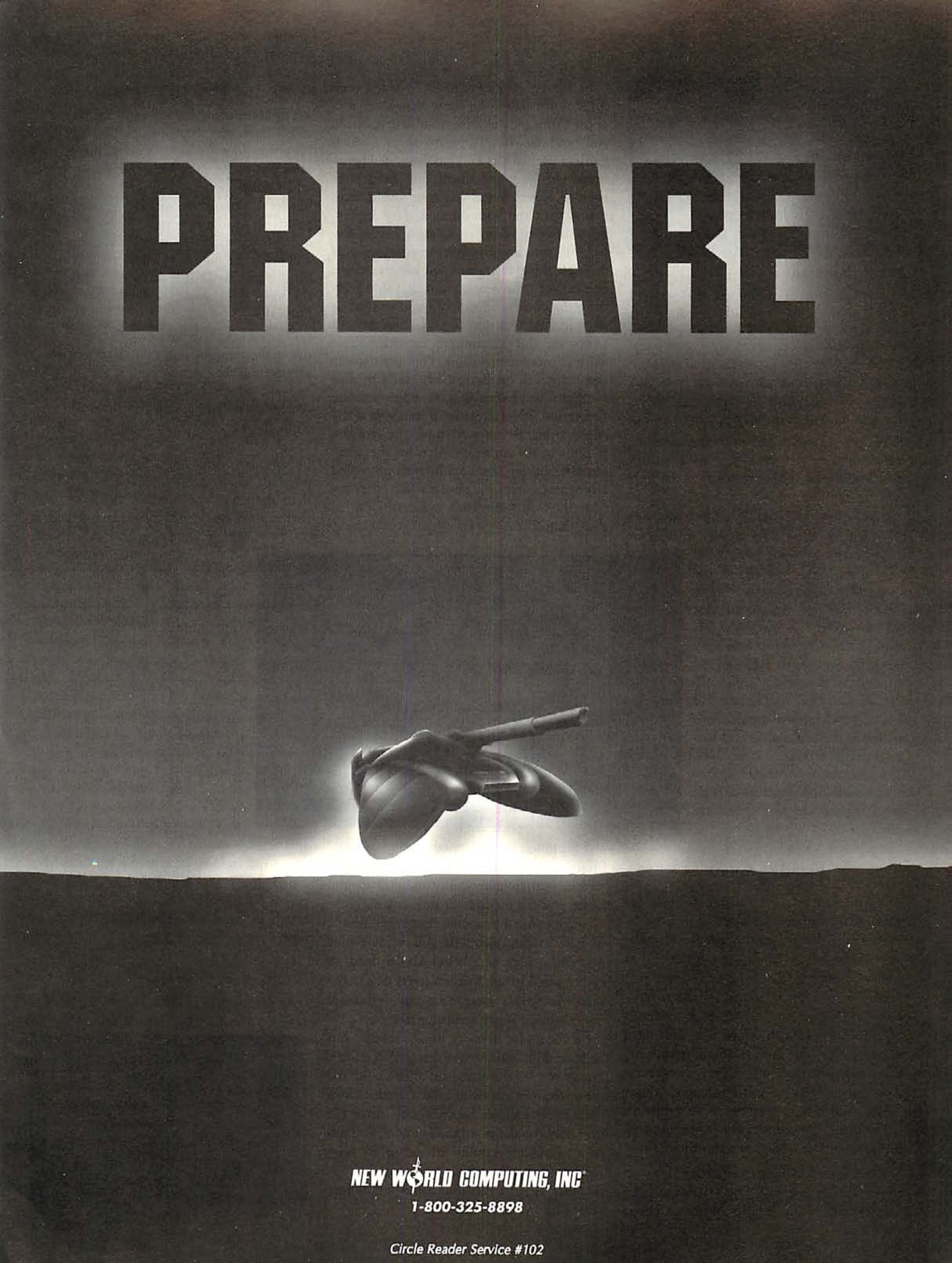
The ship you choose will affect the missions you should accept. The trundling Galaxy makes a large, slow-moving target for enemy ships, making it a poor choice as a ship for a mercenary or bounty hunter.

If you'd rather take the gun-for-hire approach, the Orion or the Centurion is the best option. The Centurion is arguably the best craft in the game. While short on cargo space, the Centurion is fast, supports six guns, a rear turret and two banks of missiles or torpedoes. Before leaving the Troy system, make sure your vessel is equipped with the following items: Level 3 engine, Level 2 shields, repair droid, jump drive, Level 3 ECM, complete sector maps and a full complement of weapons. You might also consider enrolling in both the Mercenary's and Merchant's guilds at this time.

Trolling For Dollars

With the exception of the plotline (which forces you to smuggle illegal drugs and guns in order to complete the game), you have a great deal of freedom in choosing which cargo to carry. Four trade items are considered contraband: the drugs known as "Brilliance" and "Ultimate," tobacco and human slaves. Smuggling contraband—with routes between any Pirate base and New Detroit being most profitable—is the best "get rich quick" scheme a player can follow in *Privateer*. Potential drug traffickers should be aware that dealing in any contraband will make them an instant enemy of powerful Confederation forces. Skirmishing with Pirates and Retros is one thing, but going head to head with a Confederate destroyer is a sure-fire ticket to permanent retirement. If you do trade in contraband, the best strategy to take when encountering militia and Confederate forces is to run away, using the afterburner to speed between jump points. In these cases, a fast ship with plenty of shielding—like the Orion or Centurion—is the ship of choice. If you destroy too many Confederate ships while smuggling contraband, you'll run the risk of being considered an enemy of the Confederation and of being attacked on sight. The only way to convince the Confederation to stop shooting at you is to destroy large numbers of pirates and Kilrathi.

For gamers unwilling to take a walk on the wild side, trading in conventional goods is a less dangerous, though less profitable pastime. If you plan to make your living by trading goods, the Galaxy (with a maximum cargo capacity of 225 units) is the best ship available. The Tarsus (with a maximum stor-


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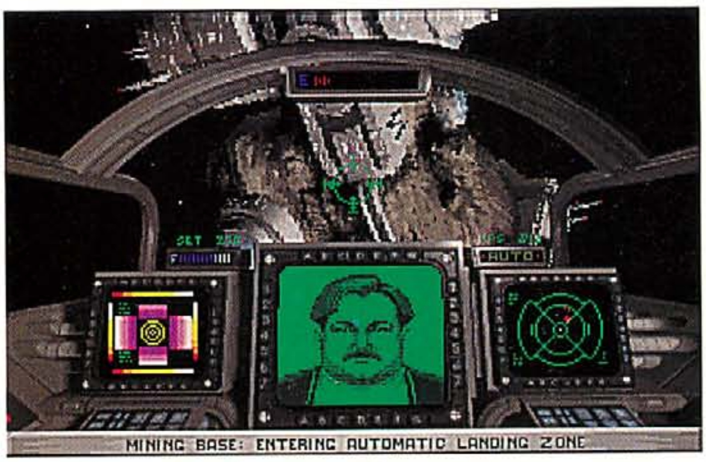
age capacity of 150 units) is the next best ship for merchanteering, although that vessel's limited upgradability precludes it from being a good choice. Using an Orion or Centurion for cargo work is nowhere near as profitable; those vessels are best suited for bounty-hunting and other missions. It's a good idea to always carry a full load of cargo; a half-empty ship is a waste of time. It's also a good idea to double or triple-up on your missions (i.e., accepting three deliveries to New Detroit), resulting in a profitable windfall at the next stop.

After exploring the Humboldt sector (the sector which includes Troy), your next sector should be the Potter quadrant (located directly to the right of the Humboldt quadrant). Not only are three of the most important bases located in this area (New Detroit, New Constantinople and Oxford), but most trade routes through this sector are well-stocked with Confederate and Militia vessels. Many of the missions offered in the Merchant's guild involve shipping cargo to either New Constantinople or New Detroit; a base of operations at either of these two locations can be very profitable.

Fighting Smart

Regardless of how careful you are in choosing missions and cargo, Pirates, Retros and an occasional Kilrathi scouting party will make your life as difficult as they can. Most of that conflict, however, is avoidable. Prudent privateers know that missions and cargo take precedence over combat. Combat is always expensive. Armor and weapons usually have to be repaired after combat, missiles and torpedoes must be replaced, and you risk getting your character killed in the process. Unless getting paid to fight (or if the combat mission is part of the *Privateer* plotline), the prudent course would be to turn tail and run.

When forced to fight, a number of tactics and strategies can help you emerge on the winning end of any conflict. When in a dogfight, it's a good idea to never fly at the same speed and heading for more than three seconds. Constantly altering your course, speed and heading will give enemy ships a much harder target to hit. This has the added benefit of changing the shield that faces your enemies. Every vessel has four shield faces (front, back and both sides), and by displaying a different facing to an enemy every few seconds, you can spread out any damage over multiple shield facings. If you lose shields on one side of your vessel, point that side away from the enemy. Shields can also be used as an offensive weapon. If you have enough armor and shields, ramming can make short work of most enemy ships. This tactic works especially well on Retros, who tend to dive straight toward your ship, veering off at the last second. Point the nose of your ship at the approaching Retro, wait until the last few seconds of his approach, then hit the afterburners. Larger ships with more powerful armor and shields will always win a ramming contest. Well, unless it's a Kilrathi capital ship, that is.



If the going gets too tough during combat, hit ALT-O to access the *Privateer* options screen. Turn invulnerability on, return to the game, and exit the combat area. You may lose the credits for the mission, but you'll return to base in one piece. (If you're on a plot mission, it may be a better idea to load an earlier saved game. Mission fixers don't take kindly to players who can't complete the task they require.) When returning to collect payment for a plot mission, invulnerability can be turned on without any deleterious effects. For example, the first plot mission in the game requires that you take a load of iron from New Detroit to Liverpool. After the iron has been delivered to Liverpool, you can turn on invulnerability to return to New Detroit and collect your payment. Just remember to turn invulnerability off before accepting any other missions.

Ship Upgrades

The afterburner is quite possibly the single most important ship upgrade you can buy. Not only does it grant a large tactical advantage, but it can also save a smuggler's bacon when the chips are down. Hitting the afterburner can boost you quickly between jump points in hostile territory. When fighting a losing battle near a base or planet, a wise pilot will point the nose of his ship towards it and hit the afterburners. Once within 5000m of the base, your ship is automatically pulled into safety.

When it comes to weapons, the most effective in the game are undoubtedly the tachyon cannon and the Friend/Foe (FF) missile. The tachyon cannon offers the best combination of damage potential, range and energy drain, while the FF missile can hunt down enemy vessels with uncanny accuracy. Another point to consider when upgrading a vessel is to purchase an engine upgrade one grade higher than the currently installed shields. A ship with a level two shield upgrade and a level three engine upgrade can maintain nearly continuous afterburner power, as well as support a wide range of energy-hungry combat activities (such as ramming enemy ships, continuous weapon firing, etc.). Last but not least, the addition of a repair droid is one of the wisest purchasing decisions a privateer can make. After a particularly damaging dogfight, you can hit the afterburners and race towards a calm area of the system (indicated by the lit "AUTO" light on the ship console). Hitting the backspace key will bring the vessel to a dead stop, allowing you to sit tight and the let the repair droid fix things up. Weapons and armor can't be repaired by a repair droid, and scanners can only be repaired by a repair droid or by the software booth in the ship upgrade section on any base.

Tech Talk

As challenging as the storyline in *Privateer* may be, you may face a greater challenge in



getting the game to work smoothly on your system. Like **Origin**'s *Strike Commander*, *Privateer* needs two things above all else: processor speed and RAM. Origin recommends at least a 386-33MHz; hands-on playing experience has convinced me that a 486 machine is almost essential. *Privateer* requires 4MB of RAM, which is enough to have the program perform acceptably on most 486 computer systems; more RAM translates into fast and smooth game play, especially during bitmap-choked dogfights. Increasing the amount of RAM dedicated for SmartDrive usage (see below) will decrease the amount of time the game spends accessing the hard disk during play.

Privateer works best when used with a boot disk, as outlined in the installation guide. Not wanting to juggle more floppy disks than necessary, I discovered that the ability of DOS 6 to support multiple startup configurations worked just as well as a boot disk. See the sidebar "Load For Bear" for some useful configuration tips.

To Cheat Or Not To Cheat. Is That A Question?

One judge of a program's popularity and/or difficulty is the number of utilities, cheats, maps and other playing aids that spring up for it after release. Judging by the number of utilities available for *Privateer*, the game has either been received well by the gaming public and/or the beginning is a bit too tough. One of the most useful utilities is the shareware utility PREDIT v2.0 (by Wayne Sikes), which allows users to edit the *Privateer* *.SAV files to give you unlimited ammo, create invincible ships, etc. Another utility called PREASY v1.0 (also by Sikes) allows you to selectively cripple enemy spacecraft by disabling their shields or eliminating their weaponry. A collection of hacked *.SAV files, game maps and other playing aids can also be found in the Origin section on most major on-line services (including GEnie and CompuServe). For the ultimate playing aid, you may want to pick up a copy of the upcoming *Privateer Playtester's Guide* (Origin, $14.95), a bonanza of maps, detailed ship specifications, suggested tactics and walkthroughs of every plot mission and encounter.

And that's it for this round of drinks, buccaneers. Buy low, sell high, configure well, and don't go cultivating any strange ideas about honor and courage. The privateer's chivalric code is very simple—live to see tomorrow. When the odds are bad, the best thing to show your enemy is your backside and the glow of your afterburners. **CGW**

Load For Bear

NOTE: Before making any changes to your existing Autoexec.bat or Config.sys files, back them up to floppy disk for safe-keeping. The following configuration files assume that you have a computer equipped with 4MB (or more) of RAM, MS-DOS 6.0, Microsoft *Windows 3.1*, and a Microsoft-compatible mouse driver in your C:\MOUSE directory. If you are using a disk compression utility (DoubleSpace, Stacker, et al.) or a CD-ROM drive, you'll need to add the requisite drivers and programs to the configuration files listed below. For more information, consult your MS-DOS 6.0 instruction manual and the *Privateer* installation guide.

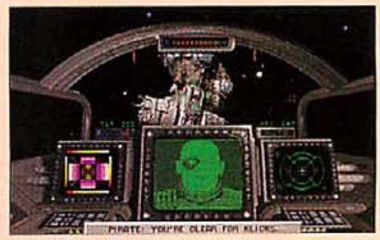
CONFIG.SYS File:

```
[MENU]
MENUITEM=Windows
MENUITEM=Privateer

[Common]
DEVICE=C:\DOS\HIMEM.SYS
DOS=HIGH
BUFFERS=25
FILES=25

[Windows]
DEVICE=C:\DOS\EMM386.EXE NOEMS RAM

[Privateer]
DEVICE=C:\DOS\EMM386.EXE 2592 RAM
SHELL=C:\DOS\COMMAND.COM /P
```



AUTOEXEC.BAT File:

```
P$G
GOTO %CONFIG%

:Windows
PATH=C:\DOS;C:\WINDOWS;
LH C:\MOUSE\MOUSE.COM
C:\DOS\SMARTDRV.EXE
GOTO END

:Privateer
C:\MOUSE\MOUSE.COM
C:\DOS\SMARTDRV.EXE 256
REM **** FOR SYSTEMS WITH 4MB RAM, USE: C:\DOS\SMARTDRV.EXE 256
REM **** FOR SYSTEMS WITH 8MB RAM, USE: C:\DOS\SMARTDRV.EXE 2048
REM **** FOR SYSTEMS WITH >8MB RAM, USE: C:\DOS\SMARTDRV.EXE 4096
SET COMSPEC=C:\DOS\COMMAND.COM
C:
CD\PRIVATER
PRIV
GOTO END

:end
```

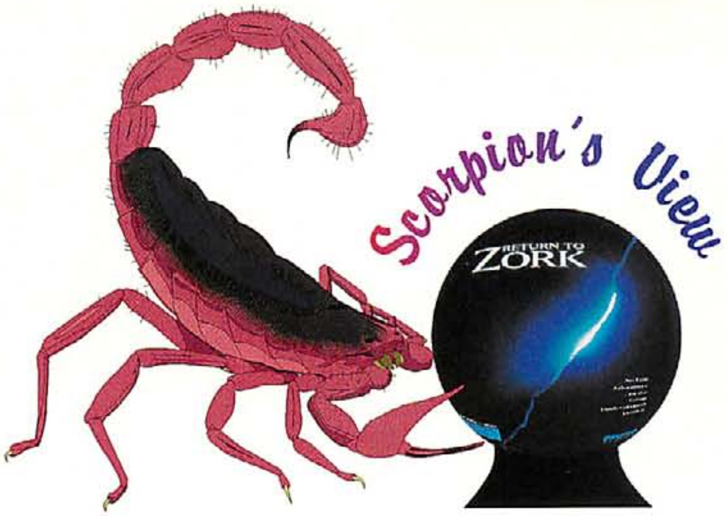
No Joy For Joysticks

If you have trouble getting your joystick to calibrate correctly, it could be that a required file is missing from the C:\PRIVATER directory. To correct this problem, a text file entitled JOYB.DAT must be created in that directory. Simply use a text editor to create the file, or type the following commands while in the C:\PRIVATER directory:

```
COPY CON JOYB.DAT [ENTER]
XXX [ENTER]
^Z [F6 Key]
[ENTER]
```

After creating this file, your joystick should calibrate correctly. **CGW**


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MACH V with optional 15" monitor shown



How Many Orcs Could Scorpia Zork...?

CGW's Adventure Games Editor Turns Her Seer's Gaze On *Return to Zork*

A few issues ago (#112, Nov. 93), Charles Ardai wrote a preview of *Return to Zork* that thoroughly covered the game. Charles and I are on the same wavelength on many points, but our conclusions are not quite the same. I'll take this opportunity to expand upon Charles' preview without retreading the ground that he covered. But first, a bit of history....

Zork was one of the first games I played on my trusty ol' Apple II. I still remember casing the racks at a computer store (they weren't so easy to find back in '81), and walking out with *Wizard & The Princess* (**Sierra**), *Pyramid of Doom* (**Scott Adams**), *Adventure* (**Microsoft**) and *Zork*. Veteran gamers will note that I seemed to have a gift for picking all the tough ones!

Sierra's *Wizard* was the odd man out. Even in those days, Sierra was doing graphic adventures. I thought the game was okay, but the pictures didn't thrill me. *Pyramid of Doom* was a bare-bones, no-frills puzzle showcase—text was minimal, puzzles were everything.

The last two were different. They were heavily text-oriented, with many long descriptions that evoked detailed mental images of mysterious places. Playing them together, it was pretty obvious that *Zork* owed a lot to *Adventure* (sometimes also known as *Colossal Cave*). In a way, *Zork* was a much-refined version of *Adventure*, yet it was also its own game as well. Even after all these years, I have a clearer remembrance of *Zork* than I do *Adventure*, and it is still one of my all-time favorite adventures.

So when **Activision** announced *Return to Zork*, I regarded it with a high degree of, let us say, *reserve*. Okay, let's be up front about here. I was extremely skeptical that anyone (even **Infocom** in its glory days) could do an all-graphic *Zork* and pull it off.

My first impression of Activision's game was that this could easily have been called "Zork: The Movie." It is almost entirely visual/aural, with very little in the way of text. True, there are a bunch of important files to read in the Mayor's office, and you have a little notebook that automatically fills in certain sections as you progress through the game, but sights and sounds are the most important things here. Even note-taking has been virtually eliminated by the game's unique camera and tape recorder functions that are used to take pictures of locations and record conversations.



The interface is a little odd, yet probably the best of any so far in an all-graphic game. With the typical graphic adventure interface, you pick an item from your inventory and click it on something else to see what happens. In *Return to Zork*, when you click an item on something else, a diamond-shaped interface opens showing the range of possible actions.

Of course, it doesn't take long to figure out that in most circumstances, it's easy enough to save the game and just run through all the choices to see if anything important occurs. This is the big drawback of all graphic interfaces, and even the clever *Return to Zork* interface can't get around it entirely. Perhaps no game can. While there were complaints in the old days about text parsers—and some of the early ones were indeed a bit picky—they still made you think about what you were doing, what you might be able to do with item X. Modern interfaces limit the number of possible options and thus take some of the imagination out of puzzle-solving.

The *Return to Zork* interface also suffers from inconsistency. For example, you can light a match while the match box is in your inventory. However, if you want to drink from the thermo, you must first take the thermo out of your inventory. Because of this, there may be times when you may think an action is impossible since the full range of choices isn't shown, making the game unduly difficult. It is also irritating to have to open the inventory, take out the item, use it, then open the inventory to put it back. Objects being used on the player (as opposed to other objects) ought to be usable directly from the inventory screen.

In terms of puzzles, the game exhibits a wide variation, ranging from trivial to clever (winning the Comedy Club prize) to amazingly obscure (picking the locked door of the grocery store). This produces a somewhat uneven game, where you make a little progress, then come to a complete halt, with no idea of what to do next.

Aggravating the situation is the Guardian (no relation to the Origin-al one). Typically, adventure players are supposed to grab any item that isn't nailed down, and if it is, you find a hammer to pry it up. That only works to a certain extent here. There are some situations where, if you pick up something, a

message appears that "the path to victory is blocked," after which the Guardian arrives to take away your entire inventory except for the camera, tape recorder, and notebook.

What makes it aggravating is that there is *no way* to know ahead of time that the object is "untouchable" (at least for the moment). For example, on the ground at Pugney's farm is a box. Taking it will invoke the Guardian. On the other hand, you can help yourself to the statue's shield outside the Temple of Bel Nair, and nothing happens.

Worse by far is the business in the swamp hut of Witch Itah (we're not in Kansas anymore, Toto). She has some bats you need, and you're supposed to show her a certain picture so she'll give them to you (picking them up otherwise brings the Guardian).



However, on your first visit, showing her the picture does nothing (it's standard practice here to show everything to everyone). But on your next visit, showing her the photo evokes the desired response, even if nothing new has happened between visits.

There are also occasions when using the right facial expression at the start of an encounter is vital to obtaining information or items. Clicking on the correct one while "talking" to Pugney allows you to take the box; using the wrong one gets you nowhere. Even worse, sometimes just a click or two is enough, while at others, you have to use the expression continually.

This is particularly important when dealing with the Troll chieftain. If you show him your magic sword, he cringes and whines, but that's as far as you'll ever get with him; he never hands over the necklace you want. The only way to get the necklace is to use one particular expression over and over while he's blabbering on with threats. Using the expression a couple of times will likely get you killed (the expressions show up only at the start of the encounter, and go away quickly if you don't use them).

These logical inconsistencies do nothing for game play, and often leave the player confused and uncertain. In addition, you can easily miss locations if you aren't careful. I had a hard time finding the Vulture Pit, which is just northwest of Pugney's barn. There is no indication you can go in that direction, and if you don't move the cursor over far enough, you'll never see the movement arrow curving that way. Other players have had problems finding the Waif under the bridge for the same reason.

Return to Zork also departs from tradition with the way it handles points. In this, it is more like a Sierra game, where performing certain actions increases your score without doing anything to advance the game itself. It is entirely possible to finish *Return to Zork* without a perfect score. I have always been mystified as to why such "pointless points" would be put in any adventure. The purpose of a score is to chart your progress through the game, not motivate you to look for silly actions to do, just to get some points.

Another jarring note is struck by some of the character portrayals in the game. Given the lavishness of the production, you'd think a little money could have been spent on makeup, so that the Trolls would look like Trolls, the Dwarves like Dwarves, and the Orc (definitely a non-Zork creature) like an Orc. Instead, they all appear distinctly human, which doesn't do a lot for maintaining a fantasy atmosphere.

So, is *Return to Zork* anything like *Zork?* Of course not. The original game was all-text and set amidst the ruins of the Great Underground Empire. It evoked the sense of wonder that comes from wandering through the remains of some long-gone and mysterious civilization. It was a place inhabited only by a lumbering Troll and a thief who sometimes filched treasures from you. It was a journey of exploration and puzzle-solving, with no help besides your own wits.

By comparison, *Return to Zork* is overpopulated. People are everywhere, ready (under the proper stimulus) to offer help, advice, and items. There is no true feeling of being underground or isolated from the world as in the original game. Nor is there really any exploration here; it's just a matter of going from one location to another, most of them seeming pretty much alike. The mix of modern day and magic doesn't come off too well, either.

You hardly get any sense at all that *Return to Zork* has any links to the previous game. There are some off-hand mentions of Zork-related matters, but that certainly isn't sufficient. Aside from the name, you'd never think of this as the *Zork* universe in the first place, especially not when the "Elvish sword of great antiquity" that hung over the fireplace in the white house is referred to as a "Dwarven sword" (an amazing gaffe!). I would easily trade the useless (and mostly boring) Encyclopedia Frobozzica that comes with the game for tighter puzzle construction, consistent design, and a more logical interface, to name just a few points.

Considered as a game without the Zork label, however, it's not too bad, although we do have to keep in mind the flaws mentioned above. Graphically, it is very pretty. The use of live actors and actresses throughout is well-done for the most part (although I agree entirely with Charles Ardai that the Troll chieftain's bit was "embarrassing"). The use of the camera and tape recorder is an interesting substitute for traditional note-taking.

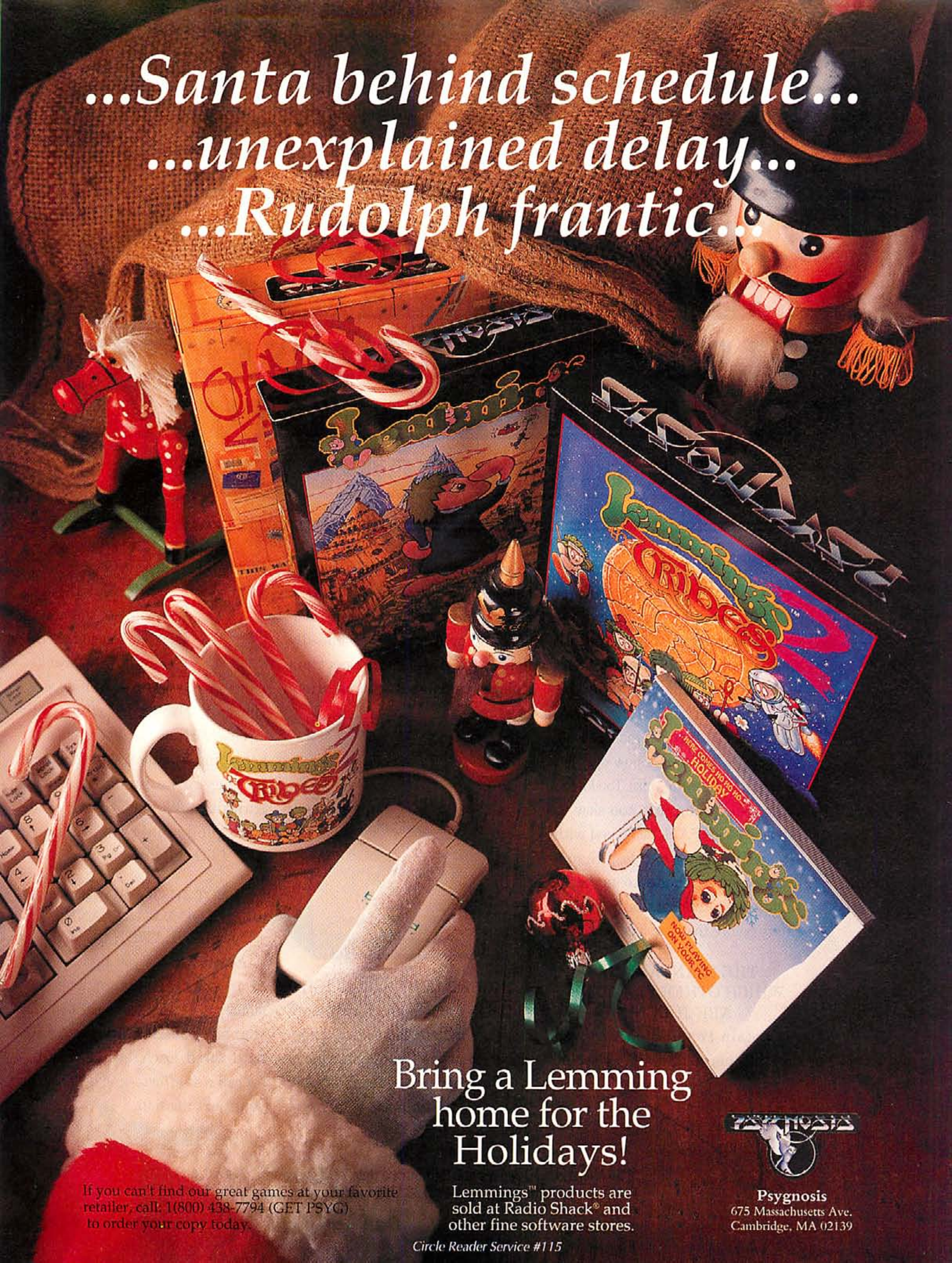
The game ran cleanly throughout. There were no crashes, no freezes, no problems with graphics or sound. *Return to Zork* supports the Gravis Ultrasound card, which reproduced all the dialogue flawlessly. Unlike *Dark Sun*, where I had some difficulties with the effects, all sound was on from start to finish with no problems of any kind.



Overall, Activision might have been better off doing this as an adventure in its own right, rather than trying to capitalize on the success of the early Infocom productions.

With the passing of the original Infocom into history, Sierra took over as top dog in the adventure market, and no one has seriously challenged them since. Activision, with its new approach and graphics, could make some big strides in that direction, but I don't see it happening if they continue trying to recycle the magic of the past.

Looking back at the classics might be a good idea for today's game designers; good puzzle construction, logical development, and creative inspiration are in rich supply on those dusty disks. But the old Infocom has had its day (alas), and the new generation, while building on the past, has to set its sights on the future. A new direction is needed here, and if Activision can find it, they may yet produce adventures worthy of the Infocom label. We'll just have to wait and see if that happens. I certainly hope it does; really good adventures have been rare of late—as rare as a grue with a sun tan. **CGW**


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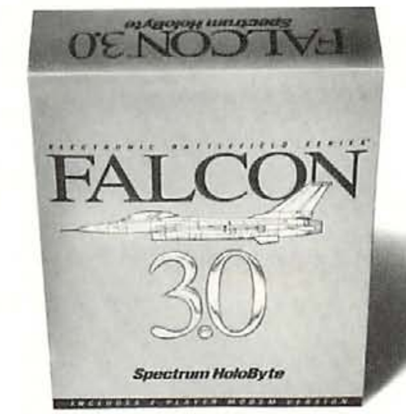
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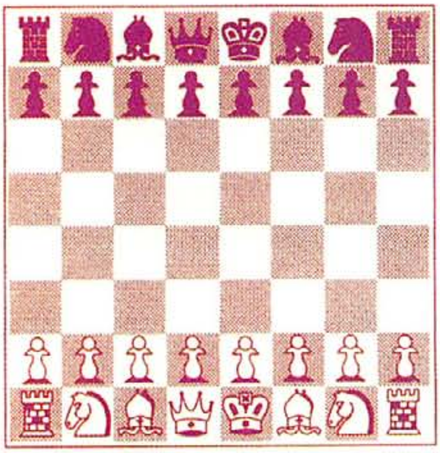
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The Ultimate Gambit

Can *Chessmaster 4000 Turbo* Past The Competition?

by Terry "Pawncrusher Lee" Coleman

It seems that every few months brings yet another computer chess program, each one sounding more like a movie sequel. The past year has brought us *Sargon V, Battle Chess 4000, Grandmaster Chess, Kasparov's Gambit* (which should get points for an original name at least), and now *Chessmaster 4000*. At various times, these different programs have held bragging rights to being the strongest computer program, only to be surpassed by new technology—certainly nothing unheard of in the computer gaming industry.

The competition remains fierce because chess is, first and foremost, one of the true "crossover" games. Broader in scope than other mainstream games such as checkers, it offers a "safe" strategy game option for those who find complex wargames anathema (perish the thought). The main reason for the avalanche of chess programs, however, is that most enticing of Alchemist's Stones, Artificial Intelligence....

"These mechanical types aren't as smart as they think. We won 5 out of 10." — David Levy

It has long been a dream—or a nightmare—that eventually a computer would be able to beat a human world champion chess player. Chess, like any good strategy game, can be approached from a mathematical standpoint. Theoretically, the computer should be able to analyze the millions of potential positions faster and more accurately than a human. In practice, strong players have been able to exploit positional weaknesses in computer AI, where number-crunching is less valuable. To compensate, the computer can rely on the hundreds of years of chess analysis stored in its memory. On mainframes, the best computers have been able to beat very good players, even Grandmasters. The foremost of these programs, Deep Thought, recently lost to World Champ Garry Kasparov, but even Kasparov admitted that his silicon opponent played a pretty good game. The amount of respect showed for computer chess AI was made apparent by the use of Deep Thought to analyze games from last year's Kasparov-Karpov title match. Deep Thought's next version (DT 4000?!) will reportedly play at a higher rating, 3400, than any human has ever achieved.

If some computer program is able to defeat any and every human, it will legitimize computer AI for most observers. Skeptics point to the immense amount of computing power needed to be competitive, implying that the AI has really not advanced, it just computes faster. Part of the argument is a philosophical reflex, as chess is considered as much an art form as a game. *Chessmaster 4000* attempts to show that the creative "spark" of computer AI is available for home computers as well as mainframes.

"It looks like you got a bunch of deadwood on your hands."— Howard Staunton??

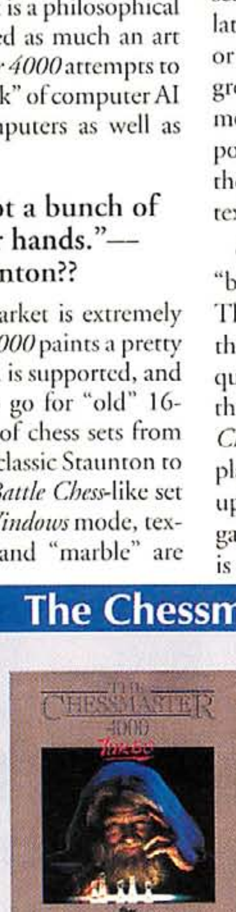
The computer games market is extremely graphics-driven, and *CM4000* paints a pretty palette indeed. Super VGA is supported, and even those who choose to go for "old" 16-color VGA have a variety of chess sets from which to choose, from the classic Staunton to Napoleonic, with even a *Battle Chess*-like set thrown in. In 256-color *Windows* mode, textured boards of "wood" and "marble" are added in both 2D and 3D mode. While all of these features are available in other computer chess games, none are any easier to use than *CM4000*. Pull-down menus have become fairly standard in chess games for the computer, but *CM4000* once again benefits from the *Windows* interface, with its various



screens and windows more easily manipulated than those found in *Grandmaster Chess* or *Kasparov's Gambit*. One of *CM4000's* greatest "chrome" features is its ability to save move lists, commentary and even graphical positions to the *Windows* clipboard where they can be inserted into a word processor or text file almost effortlessly.

CM4000 offers more than the customary "bells & whistles" in the sound department. The "plain English" spoken advice is clearer than in *CM3000*, and with a MIDI sequencer, background music is available. For those who desire a real live opponent, *CM4000* supports both modem and network play, although personally I feel that hooking up two computers to play a face-to-face chess game between two people in the same room is a bit strange, even as we gamers go.

The Chessmaster 4000 Turbo



TITLE:	The Chessmaster 4000 Turbo
PRICE:	$59.95
SYSTEM:	IBM
REQUIREMENTS:	386-16MHz or better, 4MB RAM, SVGA/VGA graphics, 11MB hard drive space, Windows 3.1
RECOMMENDED:	386 or 486DX 40MHz, 8MB RAM, Windows video accelerator (for 256-color mode)
PLAYERS:	0-2 (modem and network play supported)
PROTECTION:	None
PUBLISHER:	Software Toolworks Novato, CA (415) 883-3000

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Many players shy away from games in *Windows* format, as they often run slower, with an interface that feels like an add-on appendage. *CM4000* turns out to be a pleasant surprise, simple to use even for the *Windows*-phobe. Nine windows surround the chessboard and provide such information as which pieces have been captured, a list of moves and a chess clock. The board can be sized to accommodate the various windows, and the *CM4000* program provides a menu whereby eight different layouts may be selected. The option to design a custom layout is included and can be saved for future use (although some layouts are only available in 256-color format). Should you be so inclined, you may even look into the "mind" of the computer and watch the moves it is considering, although the move lists go by pretty fast indeed.

After playing with the various windows, sets and boards, should you decide to jump right in, a "quick level set" menu provides a ready opponent who can play from abysmal to sublime level. These "novice" to "expert" opponents lack the colorful names of the



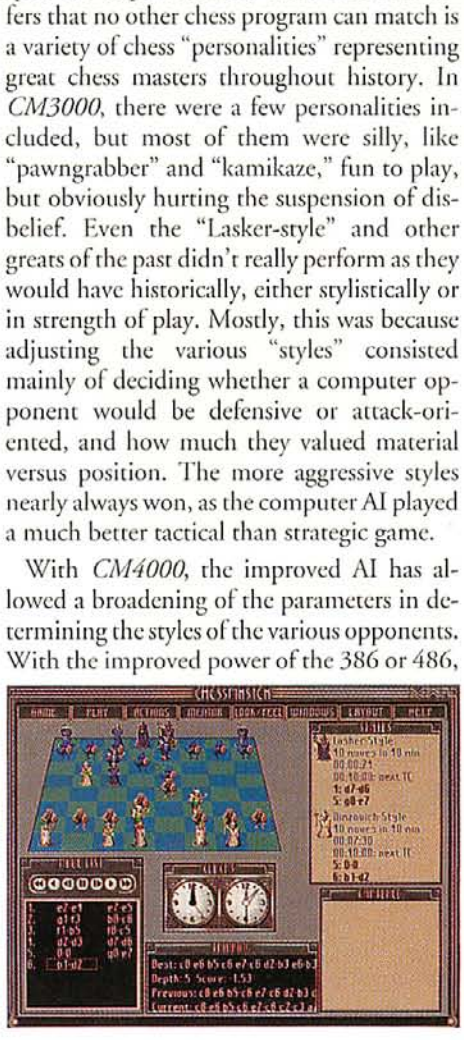
opponents in *Kasparov's Gambit* ("Einstein"), but they are just as competent. In comparing the two games, it seems that, especially on the lower levels, *CM4000* opponents have a greater variety of playing styles. During play, the program can be asked for hints and will gladly allow you to take back moves or switch sides.

For the more serious chess student, there is a fine tutorial system that can even take the rank beginner to a reasonable degree of competency. For intermediate level players, problems are provided to "solve for mate," in increasing difficulty. You can receive a rating of sorts by selecting appropriate moves from "classic games"—fans of Grandmaster Larry Evans' "What's the Best Move" syndicated column will be right at home here. For teaching purposes, this method is effective and more fun than it sounds. Still, the *Kasparov's Gambit* rating system uses actual games played to rate your progress, and although inflated (it is too easy to get a decent rating beating up patsies), it makes more sense and is more accurate in the long run than the *CM4000* system.

Where *CM4000* does have an edge over *Gambit* is in the analysis department. Even on lower levels, when you ask *CM4000* for advice, the move given doesn't lose a piece immediately regardless of what it may result in the long-term. In *Gambit*, it is amusing to be taken to task for an obvious good move, where our buddy Garry pops right back to say "I take that back," or "OH! I see your point." *CM4000* rarely embarrasses itself, and its "natural" advice in plain English is a godsend for those who barely know a pawn from a pawnshop. With a little time, *CM4000* can analyze any saved game and will automatically annotate the moves of any game upon request. Add to this the comprehensive opening library and editor, and you have a solid chess program, easy to use and flexible enough that the "chess sequels" can be forgotten for a while.

Gladly, **Software Toolworks** didn't stop here, as those who owned *CM3000* might have been tempted to pass *CM4000* by, despite the improvements. What *CM4000* offers that no other chess program can match is a variety of chess "personalities" representing great chess masters throughout history. In *CM3000*, there were a few personalities included, but most of them were silly, like "pawngrabber" and "kamikaze," fun to play, but obviously hurting the suspension of disbelief. Even the "Lasker-style" and other greats of the past didn't really perform as they would have historically, either stylistically or in strength of play. Mostly, this was because adjusting the various "styles" consisted mainly of deciding whether a computer opponent would be defensive or attack-oriented, and how much they valued material versus position. The more aggressive styles nearly always won, as the computer AI played a much better tactical than strategic game.

With *CM4000*, the improved AI has allowed a broadening of the parameters in determining the styles of the various opponents. With the improved power of the 386 or 486,



the computer can search for better moves easier and more quickly. Ironically, the more defensive computer opponents have a better chance now, simply because they can "see through" speculative attacks by their more maniacal brethren. In playing *CM3000* vs. *CM4000*, the AI now has a much better control in more positional games, and *CM4000* soundly defeated the *CM3000*, 5-0 (with one draw) in a 6-game match of identical opponents. The only program of com-



parable strength I could find was *Kasparov's Gambit* where the variety of *CM4000* opponents gave the *Gambit* program fits, although the results were virtually even overall. Both programs were strong in "blitz" (very fast) mode, but *Gambit* had a slight edge, 3-2 (with 1 draw). *CM4000* tended to play better in longer time controls, whereas *Gambit* often got into time trouble, *CM4000* winning longer games 4-2, with the *Kasparov* program losing two games on time having elapsed. Most impressive was that both programs went for wins rather than draws. Perhaps they each knew who the opponent was?

"I am the Greatest! I float like a butterfly, sting like a bee, and I'll check and mate you on King Rook 3! - Muhammad (Fischer) Ali?

If Sting, Deion Sanders and Alexander Alekhine walked into a room at the same time, the combined mass of egos in such a confined space might spontaneously explode. In fact, our musician above would have made a fine Grandmaster, at least in style. Therefore, any thought of an all-time tournament to determine the "best of all time" is a fantasy in more ways than one...but *CM4000* certainly makes a go of it (see following pages, "What if they gave a tournament...?").

How *CM4000* defines "personality" for its all-time star player molds is a fairly simple process. First, pick a player, such as Paul Morphy, the great American player of the 1800s. Unlike most of the wildly attacking players of the era, Morphy had a solid understanding of positional play, while still prefer-

ring to take the initiative. Morphy is a "-25", meaning that he is slightly more inclined to attack than defend, as a rating of "zero" is neutral. As a Grandmaster, Morphy has the maximum Strength rating of 100. Morphy is not rated for randomness of play, as his style already has a great deal of variety. Book Depth for Morphy is 15, on a scale of 0-100, as Paul preferred to use his own creativity, rather than analyzed openings, but was still aware of most of the main lines in his day. The Selective Search for most Grandmasters, including Morphy, is 6 on a scale of 1-8. We find under "Contempt for Draw" that Morphy is not fond of tie games, but will accept a draw if more than a pawn behind late in a game, position being roughly equal. Since Morphy is a great master, he also possesses the ability to think on his opponent's time and to "transpose" from one opening to another without having to re-analyze all the possible move combinations.

Next, Morphy's positional style is laid bare through, appropriately enough, the "Positional" command button. Here, we see that Morphy is more concerned with positional than material gains, and also knows how to exploit weakened or passed pawns. What really sticks out is that on a scale of 1-200 for Mobility, Morphy is the absolute maximum of 200, requiring freedom of movement for his pieces, especially when attacking. Subtle as these adjustments seem to be, they are the heart of *CM4000's* ultimate triumph as a game. Anyone, whether master or rank amateur, who has played through the games of Paul Morphy was entranced by the way in which he always seemed to place pieces on the most correct squares. No one will make the remark that a mere computer could be Morphy, but there is a real elegance to the moves made by this "personality," which is very similar to the fluidity and grace of the real Morphy's games. Similarly, the Alekhine-style opponent looks for complicated combinations, Nimzovich counter-punches, and Fischer does everything well.

For more fine tuning, different player styles rate pawns and pieces differently. For instance, Lasker usually exchanged queens early and relied on knights in locked-up positions. All in all, there are 17 different ways to define a player style, enough to keep one busy for years and years. Players will "own" some computer opponents, and dread others, according to their style. In fact, some computer styles will reject the "best" move and play in an almost "psychological" fashion. Does this signify true artificial intelligence? Hardly, but it sure is a lot of fun researching the question. CGW

What If They Gave A Tournament And Everybody Came?

A Match Up Of *Chess Master 4000* All-time Greats

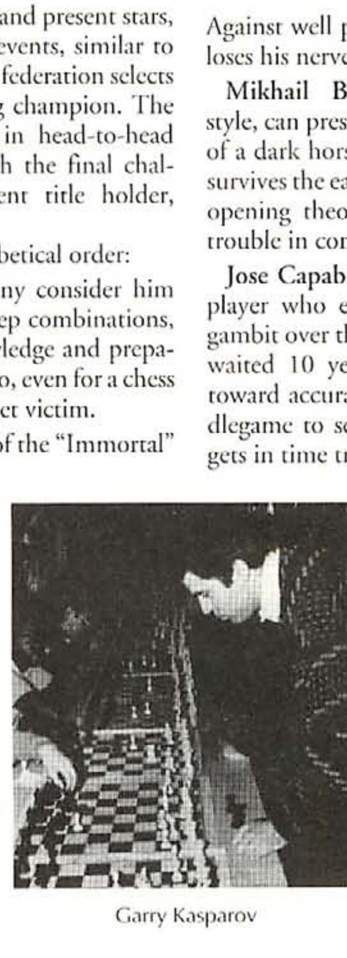
Currently, Garry Kasparov is not only the champ, but the highest rated player in history. Conventional wisdom is that the most recent champion is the greatest, through the process of evolution, osmosis or whatever. Any sports fan knows better, of course. Statistical sports games will forever be popular, as they allow us to pit Babe Ruth against Sandy Koufax, or Joe Louis vs. Muhammad Ali in their prime, with no hassles about contracts and injuries. In a similar manner, *CM4000* gives players the chance to pit their favorite chess personalities against each other to see who "really" was the greatest player of all time. Our format will include 32 past and present stars, playing in four qualifying events, similar to how the international chess federation selects challengers for the reigning champion. The top eight qualifiers meet in head-to-head "Candidates" matches, with the final challenger to meet our current title holder, Kasparov.

Our challengers, in alphabetical order:

Alexander Alekhine: Many consider him the greatest of all time. Deep combinations, unparalleled opening knowledge and preparation. Has an enormous ego, even for a chess master and could be an upset victim.

Adolf Anderssen: Player of the "Immortal" & "Evergreen" games, a superb attacker who also understands positional play. Tends to play gambits and sharp, open games. Pawn weaknesses can be exploited, however.

Ulf Andersson: A solid defensive player and a recent challenger for the world title. Ulf likes to build positional advantages and win endgames. Doesn't lose much, but not many fireworks either.



Garry Kasparov

Henry Bird: Wonderful eccentric who never gets enough credit for his original games. A good attacker, sometimes handicapped by his championing of bizarre variations. Sometimes wins through shock value alone.



Andre Philidor

J.H. Blackburne: Cares hardly at all for "book" openings or quiet games. Very erratic, but one of the most feared players for a single game. Despite ferocious attacking skill, not consistent enough to win it all.

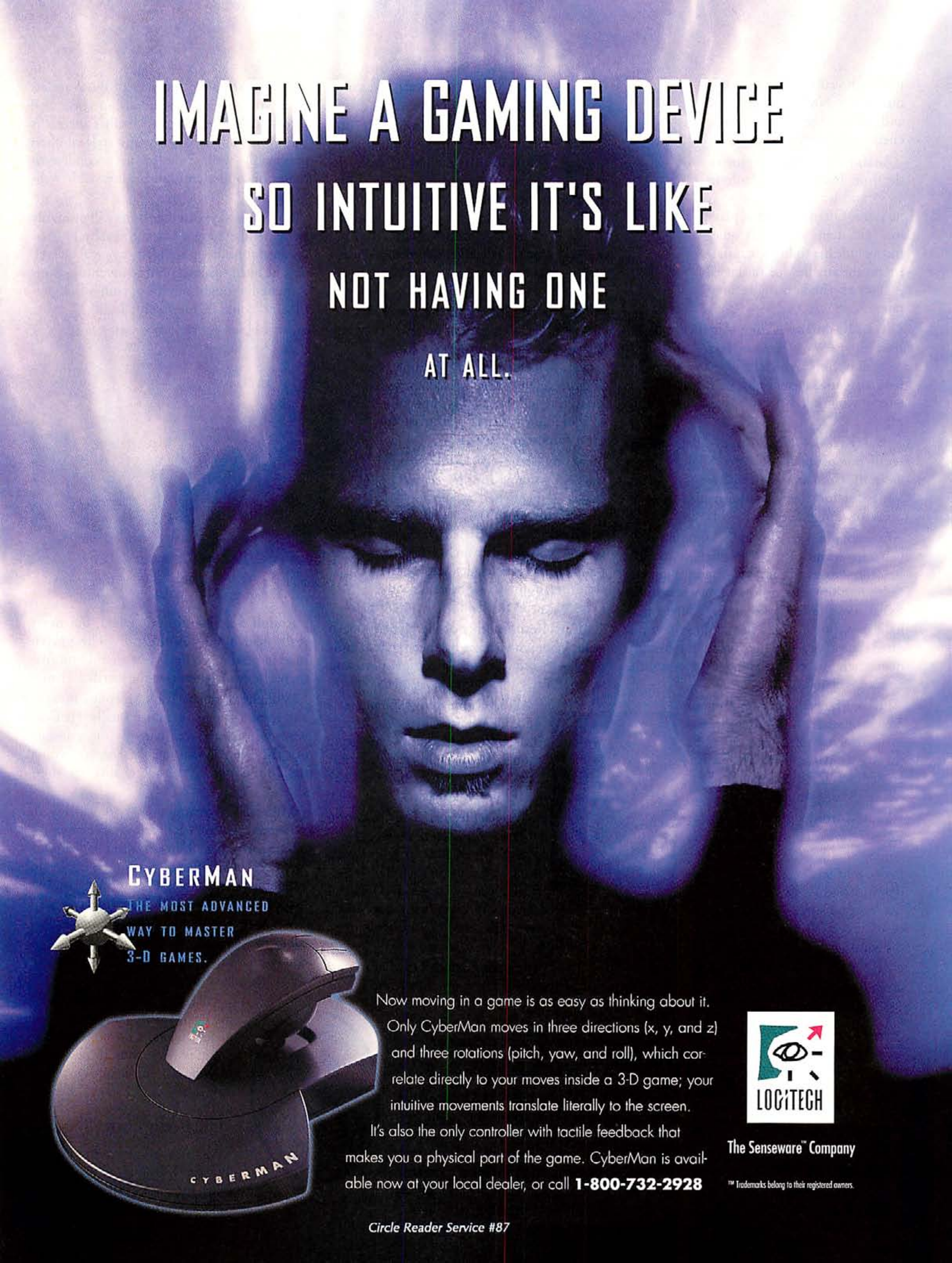
Ewfim Bogolyubov: Even more of an attacker than Anderssen, but sometimes overextends in striving for wins which aren't there. Against well prepared players, he sometimes loses his nerve.

Mikhail Botvinnik: Classic all-around style, can press or be patient as required. Sort of a dark horse, but has a good chance if he survives the early rounds. Huge knowledge of opening theory a plus, but prone to time trouble in complicated endgames.

Jose Capablanca: Called the most natural player who ever lived. Once he refuted a gambit over the board that his opponent had waited 10 years to spring on him! Tends toward accurate play in opening, with middlegame to set up winning endings. Rarely gets in time trouble.

Reuben Fine: Retired at his peak during WWII to become a psychologist. Great understanding of openings, as one would expect from the editor of Modern Chess Openings. Looking forward to mixing it up with other greats, and could sneak in if one of the favorites falters.

Bobby Fischer: The people's champion who never defended his title after winning in 1972. In his prime, Bobby was like a really good


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boxer who still packed a knockout punch. No real weaknesses, and possibly the most complete chess player who ever lived.



Wilhelm Steinitz

Anatoly Karpov: Won the title from Fischer by default in 1975 and wants to prove he is no fluke. Often accused of playing "old man" chess, his quiet moves hide his ability to capitalize on the smallest of mistakes, as shown by his very high search rating.

Isaac Kashdan: A fine American player from the pre-WWII years. Isaac has a fondness for bishops, which he likes to employ on long diagonals, especially in hunts for the enemy King. Flashy, but no chance of winning.

Paul Keres: Over three decades, consistently one of the top players. Slightly favors attacking chess, even when playing Black, but settles for too many draws in unclear positions to win here.

Emanuel Lasker: World Champion for 27 years, he defended the title when he felt like it. Still, Lasker didn't avoid tournaments, finishing third in a strong event when in his sixties! Poor opening knowledge might be a handicap, but Lasker's demanding, complicated style always takes more out of his opponents than himself. The longer the event, the better his chances.

Frank Marshall: The epitome of attack, he strikes fear into the hearts of many great masters. If Frank's thrusts are parried, he seldom has enough left for the endgame. Sells lots of tickets, though....



Alexander Alekhine

Paul Morphy: Fluid, graceful, at times effortless, his games are among the most beautiful to play over again and again. Always underestimated is his ability to shut down opponents, depriving them of what they do best. Eager to try his hand against more modern masters, especially the "Hypermodern" school. One of the clear favorites, despite his being from the 1800s.

Aron Nimzovich: Made the all-time "best name" chess team along with Bogolyubov. Superb defender, shuns the center of the board like the plague. Despite great ability, sometimes suffers from "nerves of Jell-O."

Tigran Petrosian: The most boring Champion of all time, but he rarely loses in a year, much less in a single tournament. Style consists of eliminating all counterplay, both for his opponent and for himself. Good fighter when down, however, and could steal a game or two.

Andre Philidor: From the 1700s, the most ancient of our champions, he believed that pawns were the secret to everything. While Philidor had a point, he will be sorely tested to prove it in this august company. Rather methodical, but quite effective, especially with a passed pawn.

Harry Nelson Pillsbury: A late bloomer who didn't start playing chess until his twenties, but made up for it quickly. Although primarily an attacker, Pillsbury is very pragmatic and can defend when pressed. Enjoys sharp lines of play, and is vulnerable in more quiet positions. One of the great forgotten players.

Sammy Reshevsky: While Sammy was still winning into his sixties, he is best remembered as the top US player of the '40s and '50s. Reshevsky plays a defensive game that is awkward to watch as well as play, but he gets results, and at one time or another, has beaten nearly every player in the field.

Ricard Reti: Another of the Hypermodern school, but with a more balanced style. Tends to play to the level of his competition, and will definitely make some noise here.

Akiba Rubinstein: When he is on, Akiba crafts games of beauty. If his opposition cramps his style though, Rubinstein often loses his way. One of the best in the endgame, regardless.

Carl Schlecter: The "drawing master." A match between Schlecter and Petrosian is for people with too much time on their hands. Actually, Carl is a good positional player, especially with queen-side openings. He just lacks guts most of the time.

Yasser Seirawan: Former US champ and one of the best writers on chess. The rumor that Yasser got into this event because of his work on *CM4000* is completely unsubstantiated. Seirawan had a celebrated victory over Karpov when he was still world champion, and is one of the only US players other than Fischer to qualify for the Candidates matches. Doubtful he'll do that well against this level of competition, however, Seirawan's games are always interesting.



Ricard Reti

Vassily Smyslov: Another of those ageless ones, still playing championship chess well into middle age. Part of Vassily's success is due to his ability to play any style of chess reasonably well. Smyslov never underestimates his opponents, and is invariably well-prepared.

Boris Spassky: Sad that Boris will primarily be remembered as a loser to Bobby Fischer, because at his best, Spassky was a real marvel. Yes, he liked to attack, but so inventive! Boris is mentally tough, but his openings lack polish, and could be his downfall.



Capablanca meets Lasker in one of their many tournament engagements.

Rudolf Spielmann: Fine talent, but never really had a shot at the title. The proven master of the sacrifice, but in this tournament, he could end up as the sacrificial lamb.

Wilhelm Steinitz: Took Morphy's theories and went a step further positionally. He liked winning material and hanging on, grinding out the win. Plays a lot like Karpov, with a dash of Fischer. Very good chances to win it all.

Mikhail Tal: Synonymous with whirlwind, as sometimes the game is over before his opponent can catch his breath. Penchant for sacrifices hides overall talent, especially in endgame. Can beat anyone in the event, but probably will not win consistently enough.

Siegbert Tarrasch: Oddly enough, plays more like Morphy than anyone believed. A real fighter, but not as balanced as Morphy or the other real contenders.

Mikhail Tchigorin: The first of the great Russian players, he had no idea what he was starting. Underrated, especially in positional play, he has an outside chance to advance.

The Preliminary Rounds

As expected, Fischer won his qualifying round, but lost to Pillsbury, and surprisingly to Reti. Reti employed his famous



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knight opening throughout, even after Anderssen crushed his pet variation in round 9. Nimzovich whined about everything—the lighting, food but mostly about Fischer, who behaved impeccably and played Nimzo's own defense against him in the final round to prove a point. Smyslov probably could have qualified for the next round, but pressed too hard and lost two easily won games. Marshall and Rubinstein entertained everybody, while losing the majority of their games.

	Wins	Losses	Draws
Fischer	10	2	2
Pillsbury	9	3	2
Reti	7	6	1
Smyslov	7	7	0
Anderssen	6	6	2
Nimzovich	5	8	1
Marshall	4	9	1
Rubinstein	3	10	1

Steinitz won more easily than Fischer, as both Tal and Fine missed winning chances against him. Steinitz lost to Capablanca, but earned his revenge in a long game where he won a pawn on the 27th move and compelled Capa's resignation on the 110th! Petrosian was always available when one of the leaders needed a restful draw, although Capablanca should be complimented in winning both of his games from the Armenian. Fine and Steinitz amused themselves by capturing Kashdan's bishops and watching him pine aimlessly through the rest of the games. Philidor showed that he could catch on quickly, winning a "poisoned pawn" Sicilian game from Fine, and pounding on the lower half of the draw. Tal played brilliantly in some games and made unsound sacrifices in many others.

	Wins	Losses	Draws
Steinitz	11	2	1
Capablanca	10	2	2
Fine	9	4	1
Philidor	6	7	1
Petrosian	3	5	6
Tal	5	9	1
Kashdan	4	9	1
Spielmann	2	12	0

Morphy had a tough time, and at one point was 1-2-2, but rallied with eight wins and a draw in his last nine games. Going into the final round, Alekhine and Reshevsky each had nine wins to Morphy's eight. Sammy drew with Keres, setting the stage for a Morphy-Alekhine showdown. The game started very quietly, the Alekhine launched a tremendous attack on Morphy's castled king. Morphy knew his position was sound, and played quickly, but kept complicating the position.



Mikhail Botvinnik

Alekhine had a chance for a draw, and rejected it. Eventually, Morphy managed to trade off most of the pieces, and the players went into the endgame, where Alekhine lost on time. The odd man out was Reshevsky, who wished he'd tried harder for a win. This was by far the most competitive of the early rounds, with 6 different players leading at one time or another.



Paul Keres

When Morphy played Bogolyubov in the penultimate round, Ewfim paced, swore and played nervously in losing, while Morphy looked as though someone should take his pulse. When asked by a spectator why he showed no more emotion, Morphy replied, "I should have a fit of apoplexy if I acted as that person did."

	Wins	Losses	Draws
Morphy	9	2	3
Alekhine	9	3	2
Reshevsky	9	4	1
Tarrasch	8	5	1
Keres	4	6	4
Spassky	4	8	2
Seirawan	4	9	1
Bogolyubov	1	11	0

The last of the prelim rounds was even

Harry, We Hardly Knew Ye
Player Stats For *Chess Master 4000*

One of the best things about playing *CM4000* is the ability to make new opponents, each with a distinctive style of play. The stats below are for player-styles created for the "all-time tournament."

All of these player styles have a rating of 100 for strength, as they are all famous (or infamous) grandmasters. All have a random rating = zero, except for Bird, who has a 25 random rating, as he was a bit eccentric.

	A/D	BK	SCH	DR	M/P	CEN	MB	K	PP	WK	Q	RK	B	KT	P
Pillsbury	55	35	6	1	25	110	130	90	105	190	9	5	3.2	3.1	1
Anderssen	60	17	6	.25	60	80	150	85	120	100	9.5	5	3.5	3	1
Philidor	58	8	4	.50	-35	120	50	120	175	200	8.8	5.1	3.2	3.2	1.3
Schlecter	35	30	6	-3	25	100	95	140	150	130	8.5	5	3	3	1
Boyolyubov	-85	25	5	.40	65	75	115	55	125	140	9	5	3.4	3.2	1.2
Blackburne	-90	5	6	3	80	75	165	45	125	75	9.6	5.1	3.5	3	1
Tchigorin	-60	18	6	.60	50	125	155	60	105	45	9	5.2	3.3	3	1
Keres	-18	80	6	-.50	-20	150	90	95	110	110	9	5	3	3	1
Fine	45	85	7	1	-20	105	135	105	125	130	9.2	5.1	3	3	1
Steinitz	35	50	6	1	-45	160	65	110	150	150	8.7	5	3	3.3	1.2
Bird	-40	14	5	.80	55	105	110	75	135	90	9.2	5	3.3	3	1

A/D = Attack/Defense Style, BK = Book Opening Knowledge, SCH = Search Rating, DR = Contempt For Draw, M/P = Material/Positional Style, CEN = Control Of Center, MB = Mobility, K = King Safety, PP = Passed Pawns, WK = Exploit Weak Pawns, Q = Queen Value, RK = Rook Value, B = Bishop Value, KT = Knight Value, P = Pawn Value

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Circle Reader Service #93

stranger. The games were complex enough that while Schlecter and Andersson got their customary draws, they were unable to win when they needed to. Bird, Blackburne and Tchigorin attacked a lot, and did well, with Bird bringing down the house by defeating Karpov. Lasker had a field day, blowing cigar smoke in everyone's face, and dragging obviously drawn games out for hours. By the end of the tournament, Karpov looked like death, and barely held off a charging Botvinnik in the final round. Lasker was not only fresh, he was seen after the event, playing pickup games with Blackburne, waging his best cigars against J.H.'s bottle of 20-year Scotch.

	Wins	Losses	Draws
Lasker	9	2	3
Karpov	8	4	2
Botvinnik	8	5	1
Tchigorin	7	6	1
Bird	6	7	1
Blackburne	5	8	1
Schlecter	3	7	4
Anderssen	1	8	5

Quarterfinals

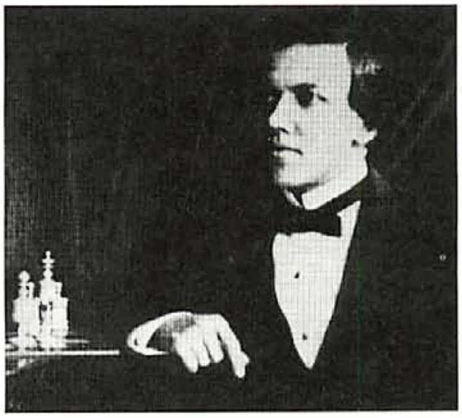
Fischer d. Karpov	3	1
Steinitz d. Alekhine	3	1
Morphy d. Capablanca	3	2
Lasker d. Pillsbury	3	2

Fischer-Karpov

Since Fischer refused to defend his title in 1975 against Karpov, this contest took on the atmosphere of a heavyweight title bout, including the inevitable media circus. Bobby started nervously, but Karpov allowed himself to get in time trouble and Fischer won with Black in the first game. Following with white, Fischer gained confidence, easily conquering Karpov's defenses in the second game. Would Karpov, looking pale and in obvious distress, lose in straight games? Anatoly played a long and complicated game without the slightest hint of an error to record his first victory over Fischer. Without looking the least bit concerned, Fischer crushed Karpov's defenses and his spirit with one of Anatoly's favorite openings, the English, in the final game. The Russian Chess federation would only comment that Fischer was a very fine player, and that Karpov was off his game. Perhaps Fischer was the cause?

Steinitz-Alekhine

Alekhine looked as if he could win with ease after the first game, combinations springing effortlessly from his superior position. Steinitz locked everything up in the next game and caused Alekhine to attack prematurely, evening the score. Neither man had any great love for the other, and the fireworks



Paul Morphy

off the board, particularly in the press conferences, came close to the chessboard confrontations. Alekhine tried the Austrian attack against Steinitz in the third game. Living in Vienna at the time, Wilhelm was hardly amused, and blunted the attack vigorously, taking the lead in the match. Egotist to the end, Alekhine continued to employ sharp variations in an attempt to even the series. Steinitz grabbed a pawn here and there, defended accurately, and the rest was history.

Morphy-Capablanca

Morphy and Capablanca played beautiful positional chess from the very first game. The two competitors showed such a degree of respect for each other that the fans had to suffer through 16 draws. Capablanca scored the first victory over a chagrined Morphy, who was playing an opponent as logical as himself. When Capablanca won a complicated endgame in game 20 to lead 2-1, many thought the wily Cuban star was sure to advance. Morphy regained the initiative with a well-placed rook sacrifice and appeared as if he could play for 20 more games if needed. Capablanca was losing his edge, allowing a draw in the next game, where many observers thought Capa had better chances. Before the final game, Morphy quietly predicted that "He shall not win another game of me," as Paul finally broke through with the Budapest gambit.

Lasker-Pillsbury

Pillsbury and Lasker drew the first game, with neither of the contestants trying any new ideas. Game 2 was a thunderbolt, as Pillsbury sprung a new variation for the early lead. Lasker began to steer the games into ever more labyrinthine avenues and finally caused enough problems for Pillsbury to even the score at two games all. Lasker was in his element, saying that the final game "...has nothing to do with chess, but with the man." While Pillsbury may have had a won position, Harry was unable to find it over the board, Lasker emerging the victor by the slimmest of margins.

Semifinals

Fischer had no trouble with Steinitz, dismissing him 3-1 as he had Karpov in the prior round. Fischer fought for every pawn much as Steinitz did. Fischer secretly admired Steinitz and was on his best behavior. Given players of similar styles, Bobby's superior opening knowledge made the difference. Morphy did not quite know how to take Lasker, and lost the opening game. Emanuel attempted to build on his advantage, but Morphy freed his pieces for attack, defusing all of Lasker's threats. Morphy eventually bested Lasker 3-1, as Paul was equal in the test of wills.

Candidates Finals

Morphy has been called the "Fischer of the 1800s," and he managed to take the first game by outmaneuvering Bobby and isolating weak pawns. Fischer caught Morphy in the next game with a piece sacrifice, and evened the match. Neither player got into time trouble, probing relentlessly for weaknesses. Fischer was caught mumbling about the accuracy of Morphy's play. Bobby was ultimately able to constrict Morphy's pieces, and forced Paul into speculative attacks to restore his mobility. Fischer won by the final score of 3-2, every bit as close as it sounds.

For the Title (first to 6 wins, takes the match)

Kasparov-Fischer was a wild match, with Kasparov doing most of the attacking early on. Fischer lost the first game, but then defended well in the next two games and took a 2-1 lead. The two continued to trade wins, until Bobby started playing quieter lines and concentrated on Garry's exposed king. Kasparov tried to complicate matters to no avail, as Fischer took the crown for all time, 6 wins to 4. Bobby afterwards avoided reporters, while Garry was unsure whether he'd retire, or perhaps retrain for a rematch.

What does all of this prove? No more than a baseball stat game saying the '27 Yankees were the greatest team of all time. Nonetheless, it does give some basis for comparison, and after all, controversy is what sport is all about. I wonder how Kasparov's style would fare against Lasker... CGW



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The Mercenary's Reprise

A Review Of Mindcraft's *Strike Squad*

by Martin E. Cirulis

When is a sequel not a sequel? This question plagued me as I played my way through **Mindcraft's** newest entry into the science fiction war/adventure game genre, *Strike Squad.* You see, the problem is that although *Strike Squad* walks, smells and tastes just like Part Two of a game called *Tegel's Mercenaries* (also published by Mindcraft earlier this year), the documentation, box and magazine ads make no mention of this connection whatsoever, leaving me somewhat confused as to the critiquing etiquette in this situation. Since the publisher must have some rationale in downplaying the relationship between the two games, would it be gauche to dwell on it? Like pointing out at a dinner party that your host's great-grandparents were first cousins?



Well, since I am rarely mistaken for Miss Manners, and since I subscribe to the "If it walks like a duck..." logic, I will go out on what appears to be a sturdy limb and proclaim that *Strike Squad* is indeed the sequel to *Tegel's Mercenaries,* completely and directly. I would even hazard to state that *Strike Squad* is not really a descendant of the former program but more like a sibling, most of the differences being cosmetic rather than developmental. If you were a fan of *Tegel's,* then consider your day made.

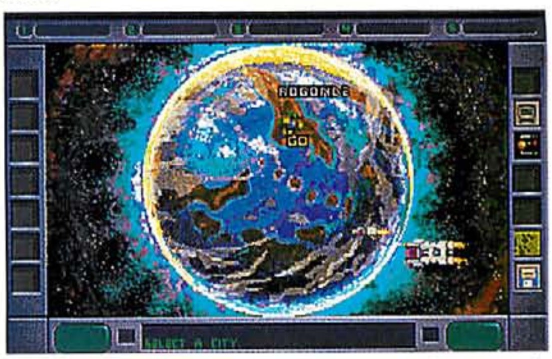
"We rejoin our story..."

Strike Squad takes place in a future where the freedom-loving beings of the galaxy are under assault by some greenish, insectile brutes known as the K'kistik (yes, another Mindcraft product where the alien bad guys are a bright shade of green, perhaps an ugly childhood incident involving chlorophyll and a Mindcraft art manager would explain this trend) and it seems that mercenary soldiers are the only kind of competent military force around.

The story follows directly on the heels of developments and revelations in *Tegel's.* Although your success in the earlier game is assumed, yours is a Pyrrhic victory and mankind is all but conquered. As in *Tegel's,* you take the role of a Merc commander (I am still not quite sure if you are meant to be the same one, but let's assume you are) who's normal *Live and Let Die,* cash-driven philosophy has been radically changed by the destruction of your homeworld by the bug-eyed K'kistik.

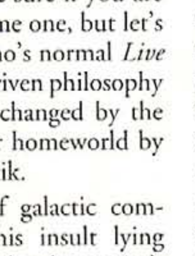
Not the kind of galactic commando to take this insult lying down, you decide that humanity's salvation will not lie in epic fleet battles, but instead with the actions of a small band of trained professionals. The point is to hunt down and exterminate the K'kistik High Commander, thus severing the head of this galaxy-devouring snake and giving the good guys a fighting chance in the ensuing confusion.

In a rare divergence from its predecessor, *Strike Squad* does not assign missions in a linear string; you are instead presented with a series of conversational encounters akin to *Ultima*-style adventure games: Being *A* men-

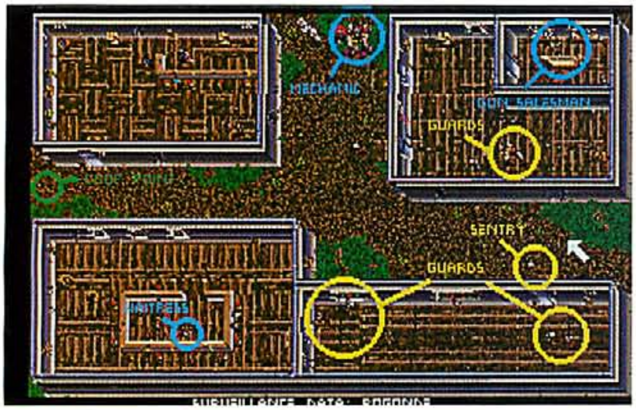


tions Artifact *B* hidden in City *C* that can only be found by talking to Being *D* in Prison Facility *E.* Each location is inhabited by various well-armed nasties that must be dealt with violently by your squad of four Mercs, who are picked for each "mission" from a pool of 20 or so hardy beings. A mission is a vague term in *Strike Squad* because it's up to you how long one lasts and how many locales can be covered. In fact, long multi-purpose missions are encouraged, as these troops really are mercenaries and demand to get paid every time they return to the mothership, the step which marks the end of a mission and allows you to pick another

Strike Squad



TITLE:	Strike Squad
PRICE:	$59.95
SYSTEM:	IBM
REQUIREMENTS:	386-16MHz or better, 2MB RAM, 17MB hard drive space, mouse; supports Ad Lib, Disney Sound Source, and Sound Blaster sound cards
PROTECTION:	Documentation look up
DESIGNERS:	Robert Bonifacio, Dan Burke, Roger Somerville
PUBLISHER:	Mindcraft Torrance, CA (310) 320-5214



group of Mercs that may better serve your next plan. Without a strict assignment of duties, the "work for pay" premise becomes a little weak and you end up earning money by finding objects and people, or by just having conversations. As in *Tegel's*, the only way you can lose is to run out of money, Mercs, or both.

"Okay Beings, here's the plan..."

Strike Squad is played by moving characters around skewed 3D terrain that is similar in look and detail to that found in *Ultima VI*. While you can have as many as four Mercs in a party, only one can be directly manipulated at a time while the others remain inert (except to fire upon any viable target that wanders into their line of sight) or follow the manipulated character like a line of ducks. Control is by mouse point-and-click or by keyboard; curiously, there is no joystick support. The character under your direct control can be ordered to fire at any visible target, set demolition charges, manipulate devices, search bodies, give or take items, and converse with surviving bystanders. Game play is in real-time as a default mode, but players can switch to a turn-based system if they find things too hectic.

All of the weapons and devices present in *Tegel's* are in *Strike Squad* in abundance, with a few interesting additions like cloaking belts and small vehicles. The variety here is nice but rendered nearly irrelevant by the unbalanced power of some of the weapons and armor. There is very little point in having your Mercs pack cool pistols when they barely scratch enemy armor, and the team doesn't suffer any consequences for smearing the odd civilian across the pavement with a missile blast. The flame-based weapons in the game almost completely invalidate the use of medical skills and med-kits because you are either missed or you are dead, there is no other result. In hours of game play I have suffered maybe 20 casualties and have only been able to heal two Mercs who were wounded by enemy fire instead of being killed outright.

An important thing to point out to the potential player is, regardless of packaging and screen shots, *Strike Squad* is far more of an adventure game than a traditional, squad-level wargame. Though tactical skill and some arcade reflexes certainly are important here, this is a story with a definite beginning and end to it and, once finished, the game play is pretty much spent. Replays of missions result in virtually identical situations and results. While shooting up green aliens is always fun after struggling home on the freeway, I cannot see too many people playing this game through more than twice.

Double Trouble

The most potentially interesting difference in game play between *Strike Squad* and *Tegel's* is the fact you can play this new product with



two players, either cooperatively or in head-to-head competition, with one player running the Mercs while the other manages the opposition. Unfortunately this option seems to be another great idea that suffers from less than perfect execution.

Players work from a screen split vertically with most of the single screen information being duplicated in a slightly smaller format. The actual play scale remains the same, you just have half the viewing area around your playing character. This can get to be a problem with some of the longer range weapons. And while one player can still use the mouse, the other is forced to the keyboard interface, and this is not a good thing. Here is where joystick support is crucial, as it can mimic mouse control more easily than a hapless typist trying to fake eight-directional movement with four arrow keys.

Also, if you are living in the realm of the 386 be prepared for the game to slow down in two-player mode. Running things in turn-by-turn mode would alleviate this, but then the game takes on a plodding boardgame aspect. A fully viable two player mode, by either modem or network, could have helped to raise this product above the throng, but the poor implementation makes it feel much more like a last minute gimmick. I am fairly confident that you will not find too many *Strike Squad* tournament announcements crowding out your favorite BBS.

The Long And The Short Of It

While *Strike Squad* does offer a few hours of enjoyment for the non-hard-core adventurer or wargamer, and while the graphics are slick and there are enough humorous touches mixed with the guts and glory to keep a smile on your face, *Strike Squad* as a whole is a game that demands a lot from you and your machine but fails to return your investment. While the game takes a half-hour to install on a 386/33 and many of the locales require a great deal of running around and suffering, the game itself is thin on believability and detail. For this kind of effort it would have been at least considerate of the designer to throw in a manual reload command so you wouldn't have to wait for a Merc to empty his revolver before he remembers to reload his grenade launcher. All of the strengths of its predecessor are included in this un-sequel, but unfortunately most of the weaknesses also remain. It would have been nice to see a little more development put into the Tegel engine, rather than having it shoved out the door in time to make that all important last quarter sales graph. **CGW**





Circle Reader Service #32



The New Kid In Cybertown

by Jerry Golick

The world of telecomputing is big and full of opportunities: multi-player gaming, group discussions on bulletin board systems, file transfers and more. Where does the budding telegamer get his or her start? In this second article of a series on on-line gaming, the DataComm Council will introduce the new telegamer to the wonders of the local Bulletin Board System, and the virtual landscape beyond....

The Datacomm Council is pleased to bring you the next installment in our Introduction to Telegaming series. In our last meeting (November '93) we talked about the minimum requirements for entry to the world of telecommunication: a modem, a communications program and an available phone line. If you've gathered these goodies and installed them properly, it's time to dip your toes into cyberspace.

Where does the novice cyber-explorer go for his/her first taste of on-line life? A short trip to a local bulletin board system (BBS) is an excellent starting place. While it may not have all of the glitz and glamour of a commercial BBS, the local BBS is generally inexpensive, friendly, and can be a great deal of fun.

But first, a word of warning: telecomputing has many dangers. While some of these are obvious (the expense) and others are subtle (viruses) we feel that addiction heads the list. BBSs can exert an inexorable force on your soul. It starts slowly, but rapidly builds to an overwhelming need to take another telecomm hit. Hours drift by as you float through the electronic landscape. You forget to call friends, ignore your spouse, even miss the latest episode of *Next Generation*! Over a period of months you lose all contact with reality. The network becomes the new reality. We know. We've been there ourselves.

You can avoid this addiction by strictly regulating the amount of time that you spend jacked-in. Set a limit and stick with it. Put your modem on a timer. Enough said, you've been warned.

Jack-in (v): to connect to a network or BBS with your modem. Synonyms: log-on, sign-on.

What exactly is a Bulletin Board System? It's merely a computer or group of computers set up with a software program that allows other computers to call up and say "hello." The most basic of bulletin board programs allows people to leave messages for other users, both privately through E-mail or publicly in a forum that all users can access. This last form of communication is loosely analogous to posting notes on a bulletin board, and hence the name; but bulletin board is really too limited a metaphor for the type of communication that goes on in telecomm land. What actually occurs are time-delayed group discussions. One person "posts" a question or comment, and other users will pick up the "conversation" and add their own remarks. "Strings" of comments can go on for a long time, spanning weeks and covering a broad spectrum of ideas.

In addition to its bulletin boards, a BBS will allow users to send and receive software or other packages of information. Most bulletin

boards also offer games, both solitaire and multi-player. Some multi-player games can be played live (in "real-time") or by turns, allowing players to make their game turns as they jack-in over time.

Your First BBS

How do you find your first BBS? There are a number of approaches available. Your local computer store can generally provide you with some numbers. Local computer user groups often maintain a BBS that is free for members. A number of magazines, such as On-Line Access and *CGW* (in the Opponents Wanted column), will list some of the BBSs in your area. Friends who jack-in may pass some numbers to you. Please note that the last option is only available if your friends are not addicted and can still be reached through non-cyber-based circuits.

BBSs are normally dedicated to certain areas of interest. There are gaming boards, adult boards, user group boards, hobby/special interest boards, vendor boards, etc. A nice feature of most BBSs is that they will maintain a list of all boards in your area. Once you have reached your first BBS you can download this file (more about downloading later) and choose the type of board that you would like to investigate. Naturally, those boards will lead you to other boards which will lead you to other…well you get the idea. See what we mean about dangerous?

download (v): to transfer a file from a BBS to your computer.

upload (v): to transfer a file from your computer to a BBS.

What about the cost? Well, since it is a local call there will generally be no charge for the access line. Many boards are free but often set a limit on user's connection time. Some boards ask for a voluntary contribution to pay for expenses. Some boards have a monthly fee. Not to worry. You will be informed if you have to pay.

Burning Up The Lines

OK, you have the BBS number, you've set up your communication program, and you are ready to dial out. You hit enter (or double click) and you hear the modem dialing. If you're lucky, you'll hear the remote modem answering with the familiar warble of two modems getting to know each other. Why lucky? Well local boards are generally quite busy and only maintain a limited number of lines. You may have to dial a number of times before connecting. Look for communication programs that offer a redial feature. Or you can stay up until 3:00 AM when the board may be free. However, doing this is normally considered a sign of addiction. Yes, the Datacomm Council stays up until the wee hours jacking in. We can always sleep in and miss tomorrow.

Assuming you get connected, a number of things may happen. First, nothing may happen. This normally means that the BBS is waiting for you to hit ENTER or ESCAPE (ESC) so that it can recognize your modem. Or you may see a great deal of "garbage" (i.e.: unrecognizable characters) on your screen. This means that you do not have the right communication settings in your program. Verify that your speed, start, stop and parity settings are correct and try again.

If everything is working correctly, you will see a banner message that will state the name of the board and give you directions if you are a new user (you are). Follow these to gain access to the BBS.

cyberspace (n.): a general term for the world of telecomputing. If you've "jacked-in to cyberspace" you've connected to a BBS or larger network.

There are a couple of things you still have to do to become a participating member in the tele-community. Many boards will require some authentication of your identity. This is to prevent unwelcome visitors. You may be required to leave your phone number and real name so that the SYSOP (system operator, more about them later) can call you and validate your ID. It is your choice, but they will generally not let you visit the board unless you are validated. You may also be asked to select a "handle" or "cyber-id." Your handle is important.

Your handle will be used by other board participants to send you messages. Your handle should reflect your personality while protecting your real identity. Cyberspace is truly an unprejudiced domain. Your age, sex, racial or ethnic background do not follow you into the net. Only your words are important. Handles allow everyone to be treated as equals. You will be judged on your behavior, not on your physical/racial attributes. Of course, some boards do require that you use your proper name. Once again, it is your choice if you want to join.

SYSOP (n.): SYStem OPerator. The owner/operator of a BBS. The minor deity of a local telecomputing domain.

So the SYSOP will give you a call. The SYStem OPerator is the owner, administrator and local deity for the BBS. The SYSOP has complete control over the BBS. He/she will determine who can become a user, what behavior will be tolerated and, in general, has the power of life and death over the board members. In other words, don't get the SYSOP mad! The SYSOP may also determine what privileges you will have on the board (though in some boards this is done by voting of board members).

Since we are all responsible members of the cyber community we will assume that your call with the SYSOP has been a success, and you have been granted access rights to the board. What next?

A BBS will generally have a number of sections or services available. In general, these break down into two main areas: posting messages and transferring files. Let's deal with files first.

You will probably have the right to download files from the board. These files may contain text, images or programs. There is generally a listing of the files and a summary of what they contain. You select the files you want and transmit them to your machine.

There are a couple of things to bear in mind when you are downloading. First is the amount of time it will take. As a rule of thumb the amount of time to download a file (in seconds) can be calculated as "size of the file (in bytes) modem speed x 10." For example if you have a 2400 bit/sec modem and want to download a file that is 240,000 bytes in size, it will take about 1000 seconds or about 17 minutes. You will also be asked to select a "transfer protocol." To make a long story short, if your communication program and BBS supports ZMODEM use it. If not find a mutually supported protocol.

File transfer is normally a foreground activity. Unless you happen to have OS/2 (yeah!) or Windows 3.1 (boo! Is our bias showing a bit?) you will not be able to do anything else until the file transfer is complete. Still, it may give you time to get a snack or call a friend. Remember when you had friends?

The last point of downloading is a word of caution. While most SYSOPs try their best to prevent viruses from sneaking in, it is always possible. If you are going to download programs, your computer may catch a virus. This is not a problem with text or images, only programs. A vaccine program helps, but it may not catch everything. You've been warned.

The Art Of The Post

What about posting messages? As mentioned, most BBSs provide a number of public boards for communications between members. These are normally dedicated to a particular topic, like C++ Programming, The Grateful Dead, or Wing Commander Strategies. To participate on a board, you should

read the last 20-30 messages to get a "feel" for what is being talked about and then post your message. It is wise to introduce yourself the first time so that other participants get to know you. Variations on this include "chat lines," where you are connected in real time to other participants. Remember, anything you post publicly on the board can be read by everyone. You will be judged by what you say.

If you haven't discovered it before, you will find that written communication is a much different beast than the spoken variety. In face-to-face communication, much meaning is conveyed through gesture and intonation and other subtle communicative cues. These help communicate humor and sarcasm and like things. But these cues are not available to us in the world of BBSs. Thus, you'll have to be extra careful in how you phrase your posts. Often a joke can be read as an insult without the normal face-to-face cues. Many an argument on-line (called "flames" or "flame wars") have resulted from a well-intentioned post that was misread by its readers.

To prevent this sort of miscommunication, an electronic dialect has evolved to help communicate the subtler aspects of a message and to keep messages brief. For example, "BTW" means "by the way," and "In my [humble] opinion" is often abbreviated "IM[H]O." Also, emotions are often expressed by icons. For instance, crude "faces" like :) and :(mean happy and sad. Sometimes angle brackets are used to enclose non-verbal communication such as <g> or <grin>. You'll pick it up as you go along. Polite and eager new users often find themselves receiving much guidance from other users if they just ask.

VIRUS (n.): a small, often destructive computer program that can attach itself to other programs, thus spreading like an organic virus. "Vaccine" programs are available that will alert you if a virus has been transmitted to your computer.

What is proper behavior on a BBS? Well, it varies from board to board. Some boards have rules against swearing, racism, sexism, etc. Others have no rules. The only advice we can give is to learn the board's rules before you post. Talk to the SYSOP or other members.

While on the subject of behavior, the Datacomm Council feels obliged to discuss the darker side of cyberspace. Hidden from common view, but still accessible, are the underground or cyberpunk boards. Generally these are meeting places for cyber-cowboys who are engaged in dubious activities. These may include pirating software, hacking into high-security systems, distributing unlisted phone numbers, etc. The Council believes in the general cyberpunk credo "Information wants to be free!" but cannot condone these activities. These boards are very dangerous places. Enter at your own risk.

So there you have it. Your first entry to cyberspace. In time you may want to join larger commercial boards such as GEnie or CompuServe. These can become expensive, but they also provide access to a huge number of other individuals. If you have an Internet ID (or can get one) then the entire world is available. But start small. Support your local BBS. They're fun. Who knows, maybe you'll make some new friends to replace those that you may have lost?

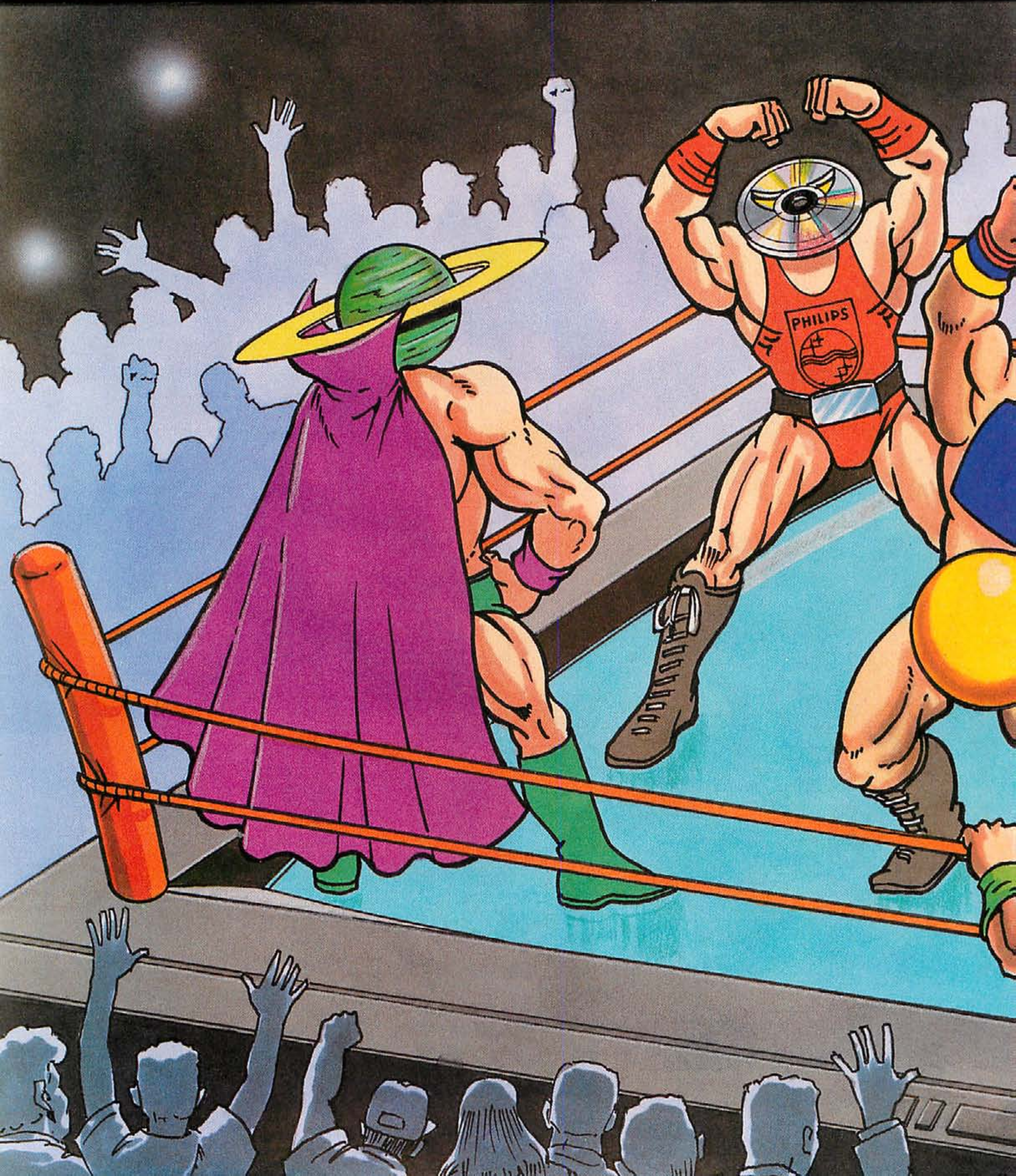
If you do make it to GEnie or CompuServe you can drop us a line here at the Council. Our representative on EARTHNET is Jerry Golick. You can find him on GEnie at J.GOLICK or CompuServe at 71175,1011. Say hello, ask a question or ask advice. We don't guarantee an answer but we will give it a shot!

Until next time: dial out, log on, hook up!

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Battle Of The



New Machines

by Chuck Miller, H. E. Dille and Johnny L. Wilson



Trying to determine whether the new wave of living room entertainment devices are a legitimate part of computer gaming is a lot like considering whether or not professional wrestling is really a sport. The fans of "plug and play" gaming are cheering for a day when they don't have to reconfigure their machines for each new game. On the other side, purist gamers are scoffing and claiming that those who can't handle periodic system conflicts shouldn't be allowed into the computer gaming arena.

Now, it's time to step into the ring and referee this match to see just what the flamboyant contenders have to offer.

In our position as media referee, we have tried to focus on those machines which we have actually seen and touched, rather than on machines which have been announced, but not formally unveiled. Events are unfolding swiftly and we would have loved to have had some significant information on **Sega**'s Saturn (appropriately enough, standing in the corner of the ring without having removed its robe to prepare for battle), **Sony**'s new 32-bit machine, or **Nintendo**'s new machine (to be built with **Silicon Graphics, Inc.**). Since even potential developers seem to be having trouble in getting specifics out of those manufacturers, we will settle for the possible.



I'm Feeling Much Better (Philips CD-I)

Three months ago, we would have seriously doubted the potential recuperative powers of **Philips**' *Compact Disc-Interactive (CD-I)*. We thought the machine's capacity was too limited (it is a 15 MHz 68070, roughly equivalent to the 8 MHz 68000—the processor on the first **Commodore** *Amigas*—but without a keyboard or storage device) and the software too uninteresting. Now there are some significant changes occurring within the CD-I world that are cause for another look.

First of all, Philips is no longer ashamed of CD-I as a game machine. Early in the machine's history, it was being positioned as a family entertainment device, and there was hesitation among older management to even mention games. The former management team was afraid that any mention of games would force the platform to compete with other game machines. So, the emphasis was away from games. Interestingly enough, however, games turned out to be the best-selling titles on the early machine. So, suddenly, games have a respectability on the platform.

Second, Philips is actively seeking developers in the MS-DOS community. Until recently, most CD-I development was being done on Macintosh computers and Sun workstations. Now, the MS-DOS environment will become the dominant development platform and this should encourage more cross-over titles between personal computers and the CD-I machine.



Full-motion video varmints slap leather in Mad Dog McCree.

Third, Philips hadn't been concerned about doing any programming that involved sprites. Sprites, of course, are those generic little characters on a computer monitor that can be moved against a bit-mapped background without disturbing the background. It is difficult to program any kind of fast interactive game without using sprites or polygons, and very few of Philips' developers were using either. Philips has recently made a deal for a new development environment called SNASM (published by **CrossProducts Ltd.** in the UK), which is primarily personal computer-based with hardware boards that allow developers to download crossassemblers for Sega and SNES into those machines. This should open up the style of games considerably.

Fourth, the addition of the new digital video cartridge gives more flexibility to the machine. For an additional $250 over the $299-$399 of the base machine, gamers get a chance to play games with full motion video *(Microcosm, Mad Dog McCree* and, in the second quarter, *Rebel Assault)*. The DV cartridge also gives game developers an additional 1.5 MB of RAM to work with.

Fifth, the new machines will have two controller ports, and one of the primary goals of the game development blitz is to create two-player games.

Naturally, we wouldn't buy a machine based on the manufacturer's strategy change, so we looked at several of the more recent CD-I titles which had either just become available or were about to be released. Here are our initial impressions.

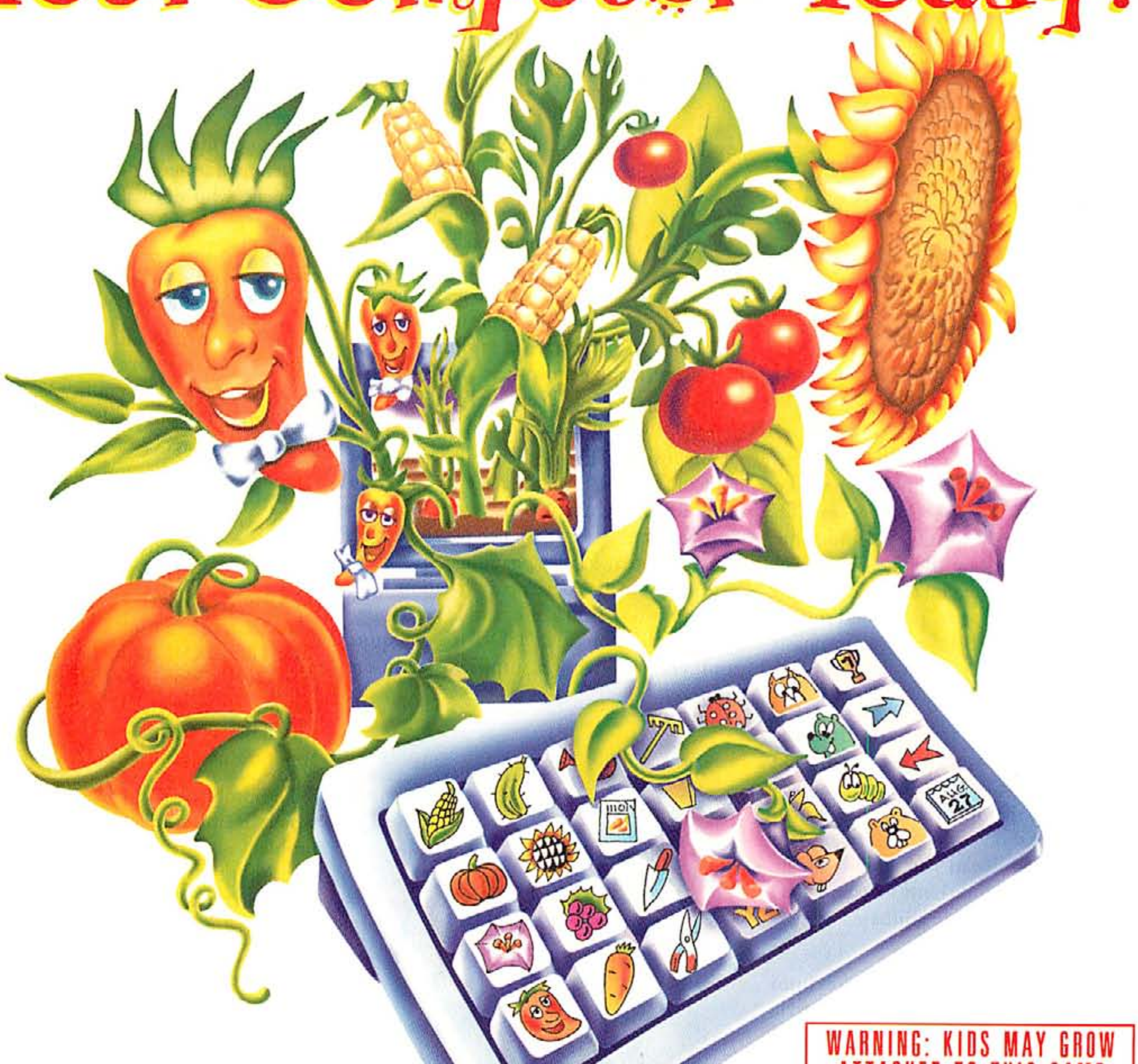
A Great Day at the Races: Billed as a tutorial rather than a game, *A Great Day at the Races* certainly has some satisfying aspects of a game. The designers have databased 70 different races as the centerpieces around which to build their tutorial. This features a multimedia history of thoroughbreds, interactive tutorial on betting, and easy-to-learn explanation of the Racing Form. Adding realistic graphics, the dulcet tones of Santa Anita's own Trevor Denman, and tips from retired actor and inveterate horse player Mickey Rooney makes it an even stronger package.

Caesar's World of Boxing: Anyone familiar with **Data East**'s *ABC Wide World of Sports* boxing will be familiar with this title. The DV cartridge allows you to see fly-bys of the Las Vegas skyline and to view film clips of beautiful ring girls, but the game is basically true



The player is a "peeping Tom" with a camcorder in the interactive movie Voyeur.

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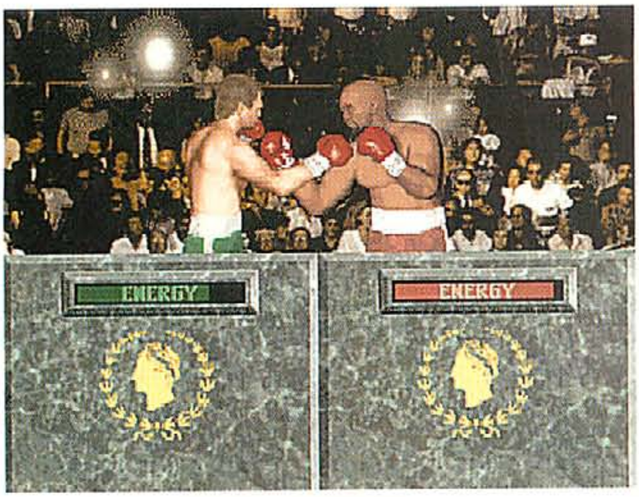
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Caesar's World of Boxing *is a comeback for an overlooked contender.*

to the original. Philips intends to build a full line of sports titles around these live-action games.

Mad Dog McCree: By mid-January, this Wild West shoot-'em-up should be in the stores. As on the MPC, 3DO and Sega CD, this game uses live video footage (and some very good stunt work on the part of the bad guys) to put the gamer in the middle of a horse opera. Everything is "point and shoot" instead of "point and click," and the emphasis is on fast reflexes rather than any coherent strategy or problem-solving.

Microcosm: Another translation from the MPC and Sega CD world, this first-person perspective roller coaster ride takes gamers through the circulatory system of a human body. Instead of shooting people, you have to shoot viruses in order to save the life of the planetary leader in whose body you have been injected. Real video with animated viruses imposed over it is rather effective.

Seventh Guest: In another conversion from the MPC world, Trilobyte's famous puzzle anthology will be available in '94 on the CD-I machine. Gamers visit various rooms in a haunted house and attempt to solve classic puzzles from earlier eras in order to discover the mystery of *The Seventh Guest.*

Space Ace: Remember *Dragon's Lair,* the famous coin-op laserdisc game where gamers directed the medieval knight through a completely interactive cartoon in order to save Princess Daphne? Its successor was *Space Ace.* The technology was the same, but the look was pure Saturday Morning Cartoon Science Fiction. *Space Ace* is now available on the CD-I and runs more smoothly than we remember the original running. Of course, those machines had to be recalibrated regularly due to rough use. That shouldn't happen in the home, should it?

Voyeur: Robert Culp plays a cameo role in this interactive experience. The interactivity is fairly limited, but the story is interesting enough and the acting is well above the norm for the current state of interactive movies. There is an aliasing problem of rough edges and blurring along the edges of the actors, which is common to most computer games using chromakey or ultramatte (blue screen or green screen technology). This is distracting in places, but the performances generally make up for it. The interface is as simple as that of a user-friendly camcorder, and the entire game lets you be a "Peeping Tom" without worrying about getting arrested.

Conclusion: CD-I is still not the answer for hardcore gamers. Even the current generation of games, though light years beyond the previous generation, are designed for those who want a gentler, kindler, gaming experience. Still, the new developer relationships, planned two-person games and DV cartridge are all indications that CD-I is "not quite dead, yet" and may yet surprise us all in the future.



Frontiers of Interactivity (Pioneer LaserActive)

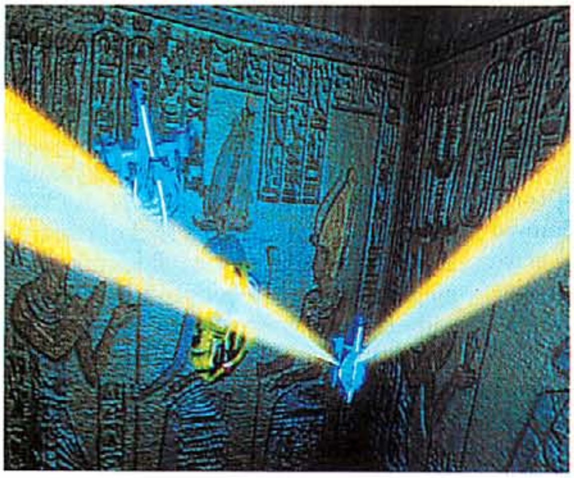
Pioneer's bid for the electronic entertainment market is the new LaserActive system. Introduced at the Winter Consumer Electronics Show in 1993, Pioneer's system arrived with barely a whisper of media coverage compared to the fanfare that accompanied the 3DO roll out, even though it is a better product in many ways. Does this mean that we, the media, have shirked our duties up to this point? No, there are reasons for the disparity in coverage between the two systems. To understand what they are, it is first necessary to know what LaserActive is relative to the rest of the market.

The basis of the technology is the combination of the existing 540 MB digital storage area of conventional CD-ROMs with a larger analog area on the 12 inch disk. The latter is capable of storing 60 minutes of synchronous audio and video without impacting on digital capacity whatsoever. What this means to developers, who normally must sacrifice large chunks of digital storage to graphics and sound files, is freedom to create larger applications. For users, this means more full motion video programs that are truly interactive.

The second innovation behind LaserActive is the development of a *quadruple* speed drive. To understand the significance of this, we must briefly discuss video compression and data transfer rate. LaserActive, like 3DO, uses an MPEG-1 video standard, which is capable of data transfer at 1.5 megabits per second. Because of the manner in which data is coded optically on the disk, however, the limiting factor becomes access speed. Conventional CD-ROMs spin at a rate which allows an actual data transfer of 150 kilobytes per second. The 3DO drive, and other double speed drives, bring this figure to 300 kilobytes per second. LaserActive doubles that so that retrieval delays are minimal in comparison and applications seem to fly along.

The problem is not with the technology, which is innovative and foresighted. The problem is with the way Pioneer is trying to position the system in the marketplace. Pioneer, in conjunction with NEC and SEGA, designed a system that epitomizes the search for the golden goose and holy grail of all electronics products: the mass market. LaserActive wants to be all things to all people. The main unit, which retails for $970, is a standard laser disk player, useful only for the playback of laser disk movies and audio CDs. To use the interactive software that is demonstrated with the product, purchase of either one or both of the "optional" control packs is required. At $600 each, these necessary accessories quickly boost the total investment into the red zone for most households.

The first control pack, developed by NEC, is compatible with all existing Duo Soft CD-ROM and game card titles. Additionally, it introduces a new 8 and 12 inch format known as LD-ROM2. A bundle of older TTI titles is included in the purchase price, as well as a new edutainment title called *Quiz Econosaurus,* which teaches children ecology and interrelationships in the biosphere by



Pyramid Patrol's graphically rich environment shows off LaserActive's capabilities.

keeping things light and humorous. A dinosaur is a central character. Only two other titles are slated for release in LD-ROM2 at the time of this writing: *Vajra*, a shooting game, and *Manhattan Requiem*, a police mystery presented with film footage. Each will retail for about $120. With only three titles on the horizon, and the doubtful presumption that consumers are willing to pay so much for each one, it is unlikely that many people will justify the purchase of this control pack.

Also, those who don't have a Turbo Duo aren't rushing out to buy one because there are virtually no new titles in development. The reason for that is that NEC/TTI failed to establish sufficient third party developers for their system, which had a lot of potential at the time. Remember, the Turbo Grafx 16 boasted the first CD-ROM peripheral for the console market. Unfortunately, it appears that Pioneer is making the same mistake as NEC. Despite having a technologically advanced product, they don't have the software support to justify its purchase.

The outlook for SEGA's control pack is equally dismal. As before, it is downwardly compatible with existing SEGA CD and cartridge titles, but it introduces yet another incompatible optical format, MEGA-LD. The unit also comes with a bundle of outdated titles and a new game called *Pyramid Patrol*, from Taito.

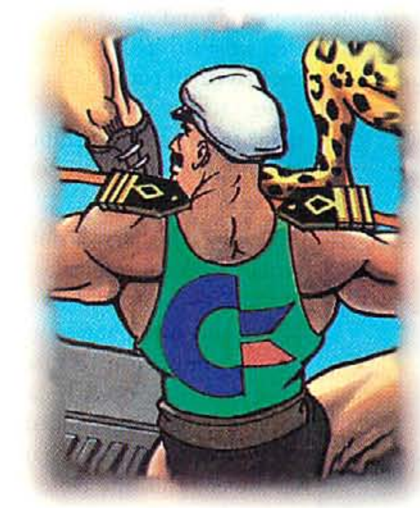
The latter is a very graphically intense shooter centering on the discovery of an ancient ruin on the planet Mars. The presentation of this product exceeds anything seen on 3DO or home computers thus far and is effective at demonstrating LaserActive's ability to combine analog and digital video.

Unfortunately, it's also working without a net. The other two titles currently available are based solely on live footage. *The Great Pyramid* is a look at Egyptian history and archeology more suited for the classroom. *I Will: The Story of London*, wants to be a game but ends up behaving like a travelogue tourist promotion. Again, only two other titles have been announced: *High Roller*, a video based air combat game (based on the old Amiga Harrier sim) and *Space Berserker*, a futuristic shooter. These will also appear at $120 each.

Finally, given that SEGA fans can have a MEGA CD for a third of the combined LaserActive and control pack price, Pioneer can make no claims about the size of the SEGA library as a selling point.

The final module really is an optional purchase. The Laser Karaoke pack and microphone draw on an existing library of 1500 titles. For $350, owners of this system can sing to their heart's content.

Conclusion: History has proven that systems without software don't survive. Despite Pioneer's efforts to sign licensees, software developers are not rushing to jump onto the bandwagon, which is in stark contrast to the 3DO phenomena. Everyone but Pioneer seems to sense the writing on the wall. No matter how good the system is, it will not achieve enough market penetration to be profitable unless the pricing comes down significantly. Further, if it doesn't happen very soon, the window of opportunity will have passed and something even better will appear



The Commodore Reports (CD32)

In September at the *World of Commodore Amiga* show in Pasadena, CA, **Commodore** debuted their new Amiga CD32 game console to the press and public. While a machine of this nature had been rumored for several years, its appearance solidifies what many Amiga owners have known all along *in spite* of Commodore's earlier efforts to disguise the fact—the Amiga is a great gaming platform.

Based on the Amiga 1200 computer, CD32 employs a 14MHz 68EC020 Motorola processor, 2MB of RAM, custom co-processors, and a double-speed CD-ROM drive. Outputs are provided for NTSC composite color, S-VHS, standard RF modulator, stereo audio jacks, and headphones. Thanks to the Amiga's AGA chip set, CD32 can display 256,000 colors on screen at once. In addition, an MPEG-1 full-motion video module will be available as an add-on for about $200 that will allow the CD32 to play VideoCD movies on compact disc. For a suggested retail of $399, CD32 is the low cost champion of the new CD-based gaming platforms.

Since the Amiga CD32 has not been released in the U.S. as of yet, game titles are rather sparse, consisting only of computer conversions (all mentioned here are of European origin). While these offerings are enhanced over the original titles, none exploit the potential of CD-ROM or the CD32. By its January release, a much larger collection of titles, including original releases, should be available for the Amiga CD32 (24 titles originally created for Commodore's CDTV player, including *Lemmings*, are CD32 compatible).

D/Generation: Little different from the original Amiga and PC versions (released back in 1992), *D/Generation* offers players an isometric puzzle game with a touch of arcade action. As with many "converted" titles, *D/Generation* provides nothing new for those with a CD32 over what was offered in the original release (neither the video nor audio show signs of enhancement).

The idea behind *D/Generation* is a simple one. A biotech research lab has gone amuck, leaving most building personnel dead or trapped within; deadly security systems are still active and keep blasting everything in sight. Your goal is to set things right in a race against time. Those with a penchant for puzzles, who don't mind a modest dose of action tossed in for good measure, may find *D/Generation* enjoyable and entertaining. However, it does little to show off the potential of CD32 as a platform and CD-ROM as a medium. (Mindscape International, Ltd., Priority House, Charles Avenue, Maltings Park, Burgess Hill, West Sussex RH15 9PQ, (44) 0444 246333)

James Pond 2: Robocod: Originally appearing on the Amiga back in 1991, *James Pond 2: Robocod* was a highly regarded platform game. Enhanced and expanded, this

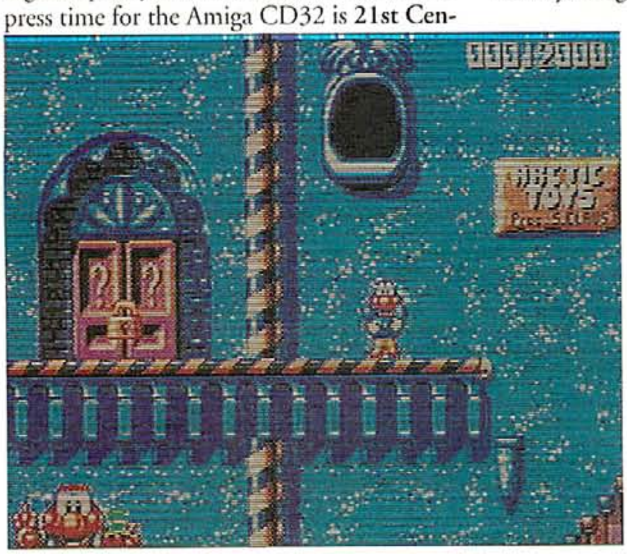


Software Toolworks' action/puzzle game translates to CD32 with no D/Generation.

version for the Amiga CD32 offers more of the same multi-directional scrolling action that made the original popular. Over 2,500 colorful, smoothly scrolling screens provide a massive play area. Additional levels have been added, bringing the total to eight; graphics have been enhanced to make use of the AGA chip set. Thanks to the extra capacity of the CD, *Robocod* now offers animated full-motion video (cartoon style) and digital audio soundtracks. Like its earlier version, the goal is to defeat Dr. Maybe and his exploding Penguins.

If you enjoy scrolling endlessly for hours at a time, investigate *James Pond 2*. It's a capable conversion for the action empowered player (Millennium Interactive, Ltd., Quern House, Mill Court, Great Shelford, Cambridge, CB2 5LD, UK, (44) 0223 844894).

Pinball Fantasies: Without doubt, the highest quality and most fun title available at press time for the Amiga CD32 is **21st Century**'s conversion of *Pinball Fantasies.* While playing pinball on a personal computer is fun, the translation to the living room on a large screen TV really makes the game come alive. Add in the improved graphics and digital stereo and count on some long hours logged in front of the scrolling pinball fields of *Pinball Fantasies.*



From Amiga to Sega and back to the primordial machine pond—James Pond: Robocod.

Hopefully, Commodore will package this game with CD32 when it ships (currently under consideration), as this would make the initial purchase of the unit more valuable. Nonetheless, even if *Pinball Fantasies* doesn't come with CD32, you will still want to pick up a copy. It would almost be worth buying CD32 just to get this game.

So, what does this CD title offer? *Pinball Fantasies* includes four playing fields: Partyland, a digital amusement park; Billion Dollar Game Show, a *Wheel of Fortune*-esque style flipper fest; Speed Devils, a race track extravaganza; and Stones and Bones, a haunting table of creaks and screams. Each playfield, or table, is one screen wide and approximately three screens high. Frankly, the game plays better on a large screen TV than on a small computer monitor. The scrolling effect is not as disorienting.

Making this conversion a step up from the original is the use of 256-color graphics and CD quality music and sounds. Though music can be turned off if desired, it never became annoying, but rather added to the enjoyment of play. Graphics are colorful, the tables attractively illustrated. Pinball action and flipper response are good, providing realistic game play.

Although, *Pinball Fantasies* does not fully exploit the possibilities of CD-ROM, it still offers a great deal of playability and should be part of every CD32 owner's game library. (21st Century Entertainment, PO Box 415, Webster, NY 14580, (716) 872-1200)

Zool: Ninja of the "Nth" Dimension: Having the distinction of being the "Sonic" of Amiga games, *Zool: Ninja of the "Nth" Dimension* offers the same level of character identification and rapid scrolling, sprite spinning action that Genesis players are familiar with. In Europe, *Zool* has been the number one smash hit on the Amiga for quite some time, a distinction it has not been able to duplicate in the States. However, with the release of Commodore's CD32, *Zool* now has the chance of becoming a recognized celebrity on U.S. shores. Provided CD32 sells well, that is.



Pinball Fantasies *is a 21st Century bumper crop.*

Quality graphics and full-screen parallax scrolling help make Zool a unique character, one able to run, jump, punch, kick, shoot, spin and climb his way through multiple levels of deadly opponents with ease (depending, of course, on your finger-twitching expertise). Enhanced over the original release, *Zool: Ninja of the "Nth" Dimension* includes an additional level of play (there were only six in the diskette version), an all new soundtrack in CD quality audio lasting a full 40 minutes, and special 3D rendered shots (Gremlin Graphics Software, Ltd., Carver House, 2-4 Carver Street, Sheffield, S1 4FS, UK, (44) 0742 753423).

Conclusion: As Commodore tries to climb into the ring with the other contenders, there are big questions in the minds of present and former Amiga owners. Is it possible for Commodore to effectively *market* the machines in the United States? The CDTV fiasco certainly isn't reassuring. Will there be enough U.S. developers to make the investment worthwhile? Commodore is strong enough to

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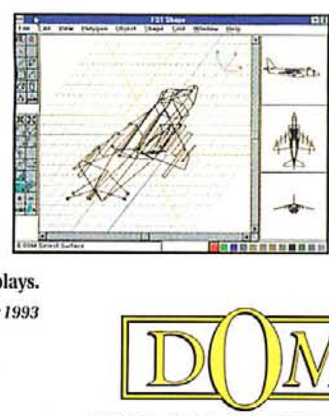
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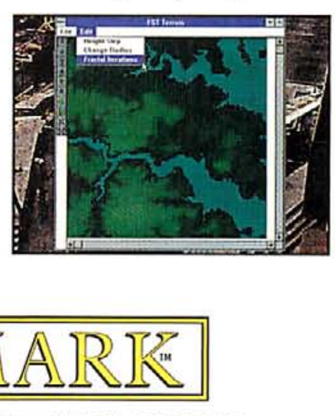
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garner support from European companies, but the lack of customer support for the Amiga and the failure of CDTV to get off the ground is likely to cause most U.S. publishers to think twice about supporting the machine.



Powerful Predator (Atari Jaguar)

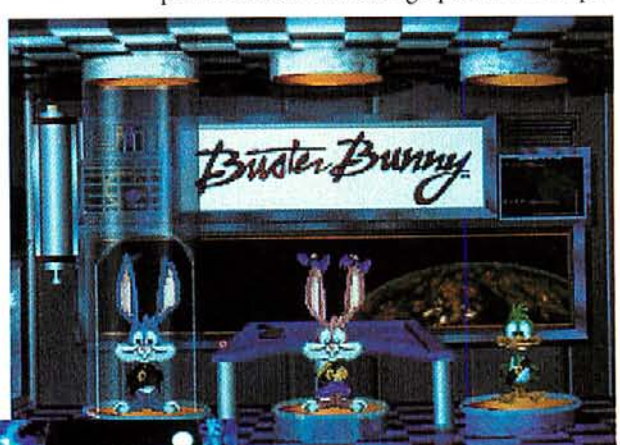
As of press time, the powerful new 64-bit machine had experienced its first major problem. It was shipping at least one week later than intended. Of course, in hardware wars, one week doesn't mean much. It did mean that we did not get the expected evaluation unit in time for this article. Fortunately, we had seen the machines at **Atari** headquarters earlier and we were impressed with the potential of the machine.

The **Atari** *Jaguar* is a jewel of a machine. It not only features specialized processors such as the "Blitter" (a chip that handles bit block transfers of graphics data) which was developed by Atari in 1986, DSP (Digital Signal Processor) chip for sound, a custom object processor for video, and graphics processor unit (with 4K of zero wait-state static RAM reserved exclusively for graphics), but it also has the same 68000 processor as the early Amigas and Atari STs. The machine boasts 720x576 video resolution and the capacity for moving 850 million pixels per second (compared to Atari's estimate of 3DO's 64 million pixels per second and one million each for SNES and Sega Genesis).

The bad news for computer gamers is that the initial releases are pretty much typical video game fare and the CD-ROM unit, the peripheral that may turn the Jaguar into a serious gaming machine, won't be out until the second quarter of 1994. Nonetheless, the price (ca. $200) and power of this console make it a machine that needs to be considered.

Trevor McFur Saves the Crescent Galaxy: We didn't get a chance for hands-on play with this title, but we observed three different levels of play on the prototype. Our initial perception is that it is a pretty typical scrolling, shooting action game. The good news is that the "boss monsters" are done using extremely effective 3D rendering.

Alien vs. Predator: This is the product that gave us the most hope. The first-person perspective with smooth-scrolling 3-D graphics looked as good as many of the personal computer games which are using that technology. The interface looked sophisticated enough to promise some interesting options and depth of play, but without "hands on" experience, we cannot be certain.



Hunting wabbit? Atari's Tiny Toons *adventure is in season.*



3D sets and nasty creatures orbit Trevor McFur *as he Saves the Crescent Galaxy.*

Conclusion: The Atari Jaguar will have to work hard to overcome the more than 18 month public relations blitz of its nearest competitor, 3DO. Not only does Atari have to overcome the stigma of its name (lack of marketing and customer support, as well as poor developer relations in the past), but it has to prove that its machine is superior — in a hurry! 3DO launched ahead of Atari and is poised for an avalanche of software support to appear in the next 12 months. Atari ventured late into third party software support and it could be the third quarter of 1994 before it has a sufficient number of software titles on the shelf. Also, Atari relied heavily on tried-and-true video game developers as its third party core, rather than reaching into the ranks of computer game developers where more sophisticated designs could tempt the early adopters. In short, it is a great machine in search of a developer/customer base.



Just 3DO It (3DO Multiplayer)

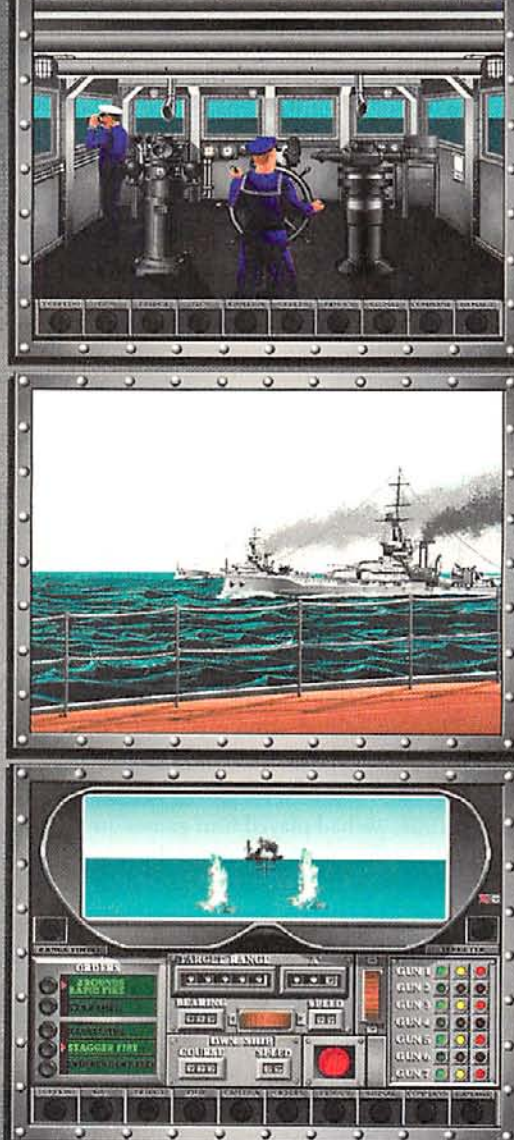
The 3DO Multiplayer is, according to the President of 3DO (Robert Faber), not a platform. "It's a concept." This is because the company does not manufacture the machines, it merely licenses its proprietary technology. The first 3DO machine to hit the market was the **Panasonic** version of the console, with **Sanyo** expected to follow with their version during the latter part of the first quarter in 1994. No one knows exactly how fast the 3DO's 32-bit RISC chip CPU is (including third party developers), but we do know that there are plenty of predefined hardware functions within the machine that will help game graphics. For example, 3DO machines have built-in hardware to assist in texture-mapping and polygon-handling. This makes 3-D first-person perspective games like *Escape from Monster Manor* into a piece of cake. The graphics routines also cover light sourcing (ability to assign light direction and intensity

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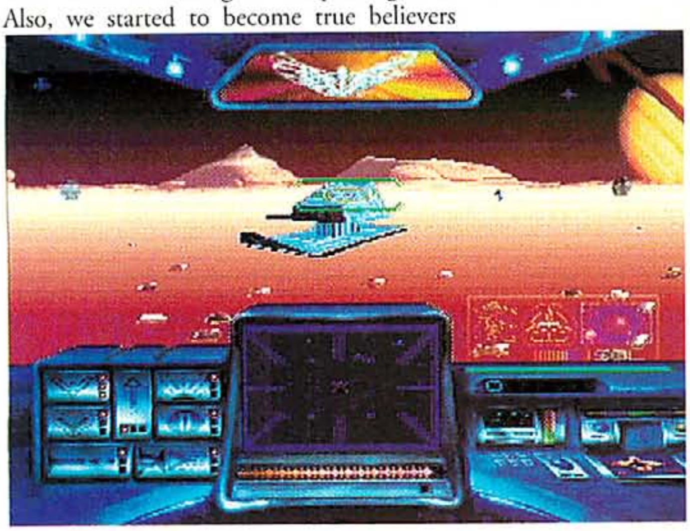
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to an object and have the program calculate its effect on the rest of the screen's objects), transparency (special effects that make solid images become transparent over the backgrounds, particularly good for magic spells, smoke, etc.), anti-aliasing (removing those rough edges from the exterior lines of objects or characters), cel animation (more detailed and smoother images than sprite animation, defined earlier in this article) and warping (ability to bend or shrink images to give physical effects to movements and collisions).

Add a built-in double-speed CD-ROM drive, full motion video, Digital Signal Processor for sound, and the capacity to daisy-chain the controllers (to create multiplayer games) to all of the special graphic effects and you end up with a $700 machine that does what it would take more than a thousand dollars worth of cards to accomplish in your IBM compatible. If 3DO's licensees can get enough machines and software out in the market, this could very well become the interactive gamer's entry level machine. And, it plays regular CDs, Cinepak-based movies on CDs, CD+G and Kodak Photo-CDs. Better yet, there is some hope for compatibility with traditional personal computers, since reliable sources indicate money has been budgeted for launching 3DO boards for personal computers in 1994. No formal announcement on this has been forthcoming from 3DO, however.

At press time, we had played four games on the 3DO that offered insights about the machine.

Draxon's Revenge: The first thing we noticed about this game was that there was terrific CD-audio coming out of the machine instead of the FM synthesized soundtracks we're used to hearing in computer games. Also, we started to become true believers concerning the texture-mapping capabilities of the machine after playing this game. Our visceral desire for violence was also sated by the fantastic bit-mapped explosions that seemed far superior to the polygon-filled pyrotechnics we're used to seeing.



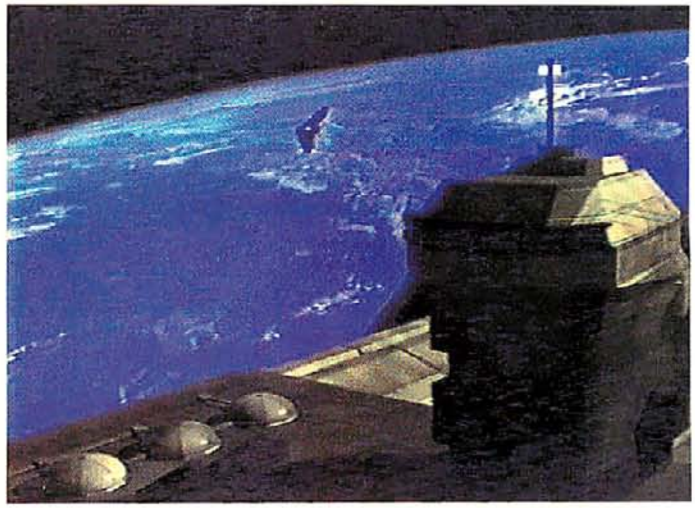
Draxon's Revenge will satisfy gamer's visceral desire for violence with fantastic bit-mapped explosions.

Escape from Monster Manor: As a 3-D first-person action game, this was the first game we played that really showed off the graphics handling capabilities of the 3DO player. The bundled software, *Crash 'n Burn*, seemed like a flat track, no physics return to Atari's old *Pole Position*. This one looked, at first, like a *Wolfenstein 3-D* wannabe. However, the rotoscoped monsters and creative use of the transparency technique with the ecto-gun's energy streams soon made believers out of us.

Mad Dog McCree: Yes, it's the same real video shoot-'em-up to be found in the arcades and many other platforms (see the CD-I list). The full-screen video looked great and showed off the machine's capability. Unfortunately, the console game-style controller is simply not up to the task. This game needs an optical gun peripheral, joystick or a mouse controller to be playable.

Twisted: The Game Show: If we were twenty years younger, we might get it. This is a bizarre parody on television game shows that has only one redeeming feature: it's different. Unfortunately, it isn't very interesting. It does show that 3DO developers want to create multiplayer entertainment (this time, trading one controller back and forth) and does show off the full-motion video when it pans to the audience. If this were typical 3DO software, however, the machine would not fare very well.

Conclusion: So far, 3DO offers the best overall package of the new game machines. We don't know what Sega, Sony and Nintendo will bring forth, but the new releases and betas that we have actually played indicate that 3DO is coming the closest to reaching its promise. We regret the fact that 3DO has apparently given up on making the home machine compatible with set-top boxes for cable television and we would love to see a modem and extra storage arrive sooner than later, but we are coming to the conclusion that, compared with personal computers, 3DO offers more bang for the buck than we have previously credited it. If games like *Super Wing Commander* and *Shock Wave* (both space combat games using 3-D technology) look as good as the demos, this may well be the ideal plug and play solution for those of us who are tired of playing circuit board roulette with our personal computers.

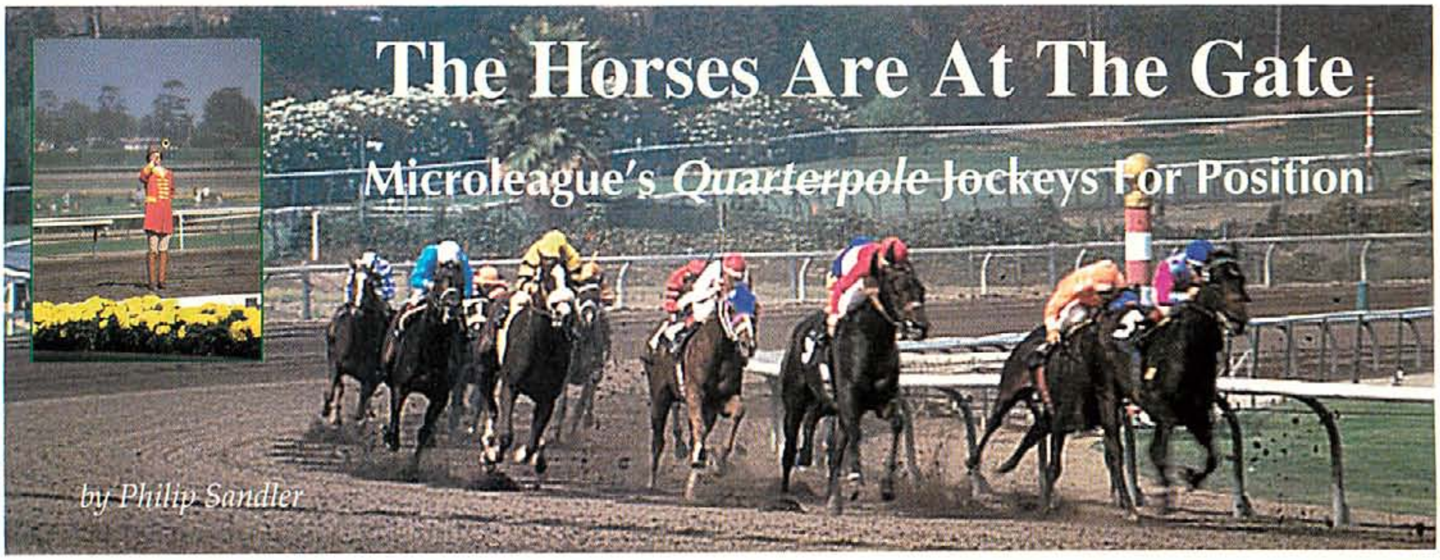


EA hopes to send a Shock Wave through Wing Commander fans.

Consoling Thoughts

It is definitely too early in the match to declare a winner. If we absolutely had to buy a new game console today, it would probably be the CD-I with DV cartridge. The price is right and there is more software to support it. If we were going to buy a machine in the next few months, it would probably be the 3DO. The upcoming titles are making the machine look very interesting. If we were going to wait until the middle of next year, the whole landscape could change.

One thing is sure. This generation of consoles is truly a class of computers without keyboards. We don't think that they pose an immediate threat to gaming on the personal computer. The personal computer still has plenty of advantages and these have different advantages. Still, the development of these computers without keyboards has been interesting to watch and the match isn't over, yet. In fact, isn't it about time for the ring girl to show us what round it is? CGW



The Horses Are At The Gate

Microleague's *Quarterpole* Jockeys For Position

by Philip Sandler

Coming around the clubhouse turn, it's Texas Flake by a length as Sawgrass is being rated on the inside. Precious Moments is driving hard, coming up on the outside, and the rest of the field is falling back fast.

Such is the verbal poetry associated with thoroughbred horse racing. You can almost imagine the familiar cadence to the announcer's call and visualize the wind whipping at the harlequin-colored silks of the jockeys as they exhort thousands of pounds of expensive horseflesh through the backstretch. The dramatic impact of putting your hard-earned bucks on a horse adds to the adrenaline factor and puts extra spin on this popular sport.



With so much action and excitement, horse racing has been a natural subject for computer games from the beginning. The Apple II had its *Horse Racing Classic*, the C-64 and the Macintosh had *Daily Double Horse Racing*, and the CGA/EGA era IBM PC had *Omni-Play Horse Racing*. The latter was a breakthrough game with its computer-controlled opponents, limited statistics, multi-player options, three skill levels, and an unprecedented amount of information available to the handicapper (trifecta payoffs *before* the race!). The game's only major downfalls were the inordinate amount of time it took to move from the main menu to the race track and vice-versa, as well as the shock of moving from CGA to EGA graphics in the same animated race sequence. Still, all was forgiven because it was an excellent game.

Microleague's eagerly awaited *Quarterpole* is an attempt to bring the world of horse racing to today's computers. The game's features include: the ability to play as a bettor or stable owner, realistic past performance records, a multi-player option (up to 10 competitors), and a graphic adventure-style interface. Sadly, these options are buried underneath many problems, not the least of which are the amount of time required to perform basic actions, and the amount of time spent waiting for a particular race.

Getting Around At Blue Rock Downs

The opening menu allows you to choose a scenario. As a bettor, you may start with as little as $80 or as much as $1,000,000. Would-be stable owners may start with one horse or a whole stable full of speedy steeds. Once a choice has been made, you move on to the main area, where the following message is displayed: "Preparing Blue Rock Downs, please be patient..." This message and several minutes of hard drive activity are the player's first indications of what is to follow. Patience is definitely the price of admission.

Once you enter Blue Rock Downs, the main display is a graphic representation of other areas you may explore: the stables, the auction tent (if it is an auction day), the lounge, the program booth and the concourse area. Clicking on one of the patrons provides a static message such as, "Hey, mister, have you seen my Dad?" from a little boy or "Ow, I'm sore," from a jockey. These messages are always the same, so don't bother checking in again later. Looking around gets old rather quickly.

If you're playing the game strictly as a bettor, you can buy a program and tip sheet and move on to the concourse area. Here you will be able to place bets or move to the grandstand to watch the race and check the odds board. Stable owners can talk to their trainers in the stable area, use the computer in the jockey's lounge, or visit the track president's office. Through static conversations with the trainer, you can get information on specific horses, find out how much your daily stable expenses are, hire a jockey, hire a new trainer, or ask your trainer to enter horses in races for you (not recommended). From the lounge computer, you can design your jockey's silks, check race results, and access statistics on jockeys, trainers, individual horses, and your own stable. You can go to the president's office to enter a horse in a race, scratch a horse from a race, or pick up information on upcoming events.

This surely sounds like a wonderfully detailed and complex simulation. In certain ways it is. But the fact is that the whole package just doesn't fit well together; it just doesn't work. There is too much information that needs to be accessed in too many different ways. You never really feel in charge of things or aware of all the details required to manage a winning stable. There is always the

Quarterpole



TITLE:	Quarterpole
PRICE:	$49.95
SYSTEM:	IBM
REQUIREMENTS:	386 or better, VGA graphics, 8MB hard drive space, DOS 5.0 or higher
PROTECTION:	None
PUBLISHER:	MicroLeague Interactive Software Newark, DE (800) 334-6572

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option of letting your trainer make your entries for you, but this really defeats the central purpose of the game. If you're not making your own decisions, why bother playing?

The procedure required to enter a horse in a race is tedious and confusing. You start by clicking on the jockey's lounge. Once inside, you click on the computer, and then on horse history, type in the horse's name, and carefully study his past performance. Assuming you don't have a photographic memory, you will need to write down ideas and pertinent information. (It is wise to reserve at least one notebook page for each horse in your stable—THERE IS NO PRINTER OPTION!). This done, you can look in your briefcase for a report on upcoming race conditions. Then, you can try to find just the right race for your horse, between one and three weeks from his last. When you've made this decision, you go back to the main area, click again to get to the concourse, then click on the door to the track president's office. Finally, you click on the president's secretary to make the entry. Sound tedious?!



Even after all this clicking around, there is still no guarantee that your horse will run in the race; final entries are decided the day of the race. If you only have one horse in your stable, you may as well sit back with a good book. It takes about ten minutes to simulate a week's worth of racing.

The Big Payoff

When your horse has *finally* made it past the entry gate, time has been forwarded to your race, you've got your $500 win ticket in your pocket, and it's post time, then the gate crashes open and the horses come pouring out onto the track. You see your horse in all his splendor, fighting his way through the pack, cutting the corner on the turn, charging down the stretch to the wire! The roar of the crowd rises in a swelling crescendo as the horses thunder past the grandstand, the announcer's voice explodes over the intercom "And *down* the stretch they come!" Your horse inches up on the leader, a length back, now a half-length. The two horses match strides as the rest of the field falls back. Whips



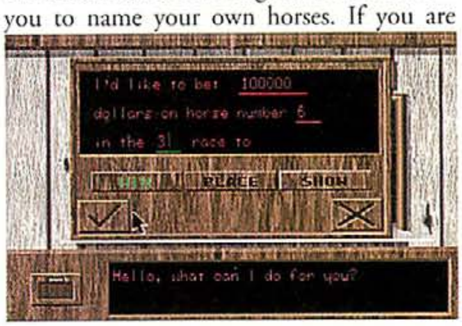
crack as their jockeys urge them toward the finish line…

At least that's what you want to happen.

What really happens is that a little bell goes off, the gate opens, and the horses run silently from start to finish. No sound, indifferent graphics, and a depiction of the race from the inside rail. This two-dimensional perspective does not differentiate between stretches and turns, it does not allow horses to get "boxed in," and it makes the whole field look like it's running backwards. There is a screen shot on the back of the game box that shows an overhead view of the track, but don't be deceived! No such view exists in *Quarterpole.* The race itself is by far the most disappointing part of the game. If Microleague had made just this one aspect of the game enjoyable, it may have gone a long way toward saving it.

Auction Day

If you're a bettor who has built up enough cash to finally own your own stable, or if you're a current owner who is thinking of expansion, you can pay a visit to the Auction Tent, open exclusively on the first Tuesday of every April. If you find that you want to visit the auction, and it's mid-December, expect a 45 minute delay for each month you wish to forward time. You can pick up an auction booklet in the president's office and carefully select horses you might want to own. Pay no heed to the trainer's comments or the quality of the horse's breeding. I've had a poorly bred horse described as "a real loser" go on to become a multiple race champion, and horses with excellent breeding and descriptions like "nearly perfect" that never won me a dime. You shouldn't bother racking your brains for clever names, either. The game does not allow you to name your own horses. If you are



letting a trainer manage your stable, make sure to turn him off, because when you buy multiple horses at the auction, he will enter them *all in the same race.* If all your horses are allowed entry, they will just run against each other. Expect to have trouble deciding who to root for.

The Photo Finish Needs A Touch-up

Frankly, *Quarterpole* finishes far out of the money. As much as I tried to like this game (and I really, really tried), I couldn't make it happen. Some aspects of the game did look quite nice when considered separately from the whole package, like the highly detailed performance records, for one. But, all of this wonderful information is just far too inaccessible. I personally think that even the decision to use a graphic-based interface was a curious choice by the game designers. The idea was to portray a first person adventure in horse racing, perhaps in a attempt to draw the player into the game. Yet, all the interface really accomplishes is to provide the ability to click on objects and get messages like "This water tower is quite tall." This has no entertainment value whatsoever. A single pull-down menu that listed all the available options would have been faster, easier to use, and would have taken up less precious hard drive space.



I've waited a long time for a truly comprehensive horse racing simulation. On a certain level, *Quarterpole* is the closest anyone has come. It easily surpasses *Omni-Play Horse Racing* in features and realism, if not in playability. But this game doesn't redefine computer horse racing the way many of us anticipated it would. Given the popularity of horse racing, it's only a matter of time before someone comes out with a game that really captures the *feel* of the race track. One that keeps you on the edge of your seat, waiting for the results of a photo finish. One that really allows you to manage with complete stable reports, statistics, charts and graphs, all easy to access. One that allows you to do your own breeding. Kind of like *SimCity* at the race track. But *Quarterpole* doesn't accomplish any of this. It's just a mediocre release with some good ideas that didn't come off. CGW

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— Computer Game Review

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The General's New Playground



Photo courtesy of McDonnell Douglas Corporation

Gen. Chuck "Ferpow'r!" Yeager Test-Flies The Mac

by Christopher Breen

My guess is that a good number of people play around with flight simulations for the same reason I do: They hate flying. When I say "flying," I'm not talking about the lost-baggage-and-nasty-little-meals inconvenience of the airline experience. I'm addressing the cooped-up-in-a-metal-tube-hurtling-through-the-skies-at-an-unbelievable-altitude kind of terror faced by poltroons like myself. Yes, we gravitate toward these sims for one reason only: control. With a simulated mission up and running, no longer must we recall our silent suffering in coach as our fevered imaginations conjure up lurid pictures of the crew passed out over the controls with tiny bottles of Old Crow clattering about the cockpit floor. Thanks to the marvels of this modern age, *we're* the aviator who's passed out, not from the excesses of drink, but rather from the force of too many G's slamming blood into our brains; *we're* the heroic warriors who chuckle in the face of angular little representations of flying machines that are bent on our destruction; *we're* the cocksure aces of the air who, when Gen. Charles Yeager pops up on the screen to exhort us to "watch your six," boldly tell him to "can it" as we send our F-4s plummeting toward earth. Yes, *we're* the kind of people who play **Electronic Arts'** *Chuck Yeager's Air Combat* for the Macintosh.

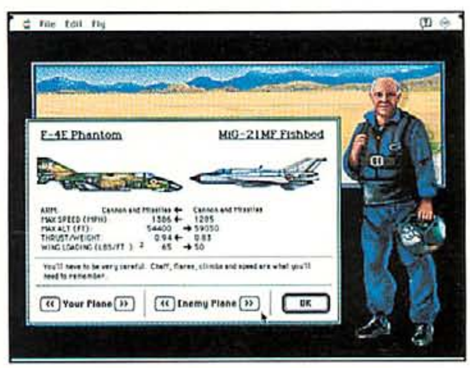


Wait a durn minute, you're probably drawling, *Yeager's Air Combat* has been out for nearly two years, and didn't *CGW* cover it ages ago? Score two for your observant self. Yes, *Air Combat* has been out for some time on the DOS platform but only recently—no doubt thanks to the incessant whining of Apple enthusiasts—has the sim been ported to the Macintosh.

I know, when Mac users hear the words *DOS*, *port*, and *Macintosh* in the same sentence, they generally turn up their collective noses in a singularly unattractive way. But put your nose down for a second and listen: *Air Combat* was rewritten from the ground up for the Macintosh by a Macintosh programmer, Mark Adams. The graphics, although maintaining some of the chunky qualities so familiar to DOS users, were also designed specifically for the Mac. So, let's put our prejudices aside for a moment and take a look.

The Sim

Air Combat is a dogfight sim that mirrors General Yeager's career by including three theaters of war: World War II, Korea and Vietnam. You can choose to fly any of six aircraft (WWII's P-51 Mustang and Focke-Wulf 190A, Korea's F-86 Sabre and MiG-15, and Vietnam's F-4 Phantom and MiG-21) and pick which side you'll pledge allegiance to. You can also select five modes under which to fly: Test Flight, Create Mission, Historic Mission, Campaign and Head To Head. As a bonus, you determine the skill level of the opposing pilots—from Amateur to Excellent—in every mode except Campaign and Head To Head.

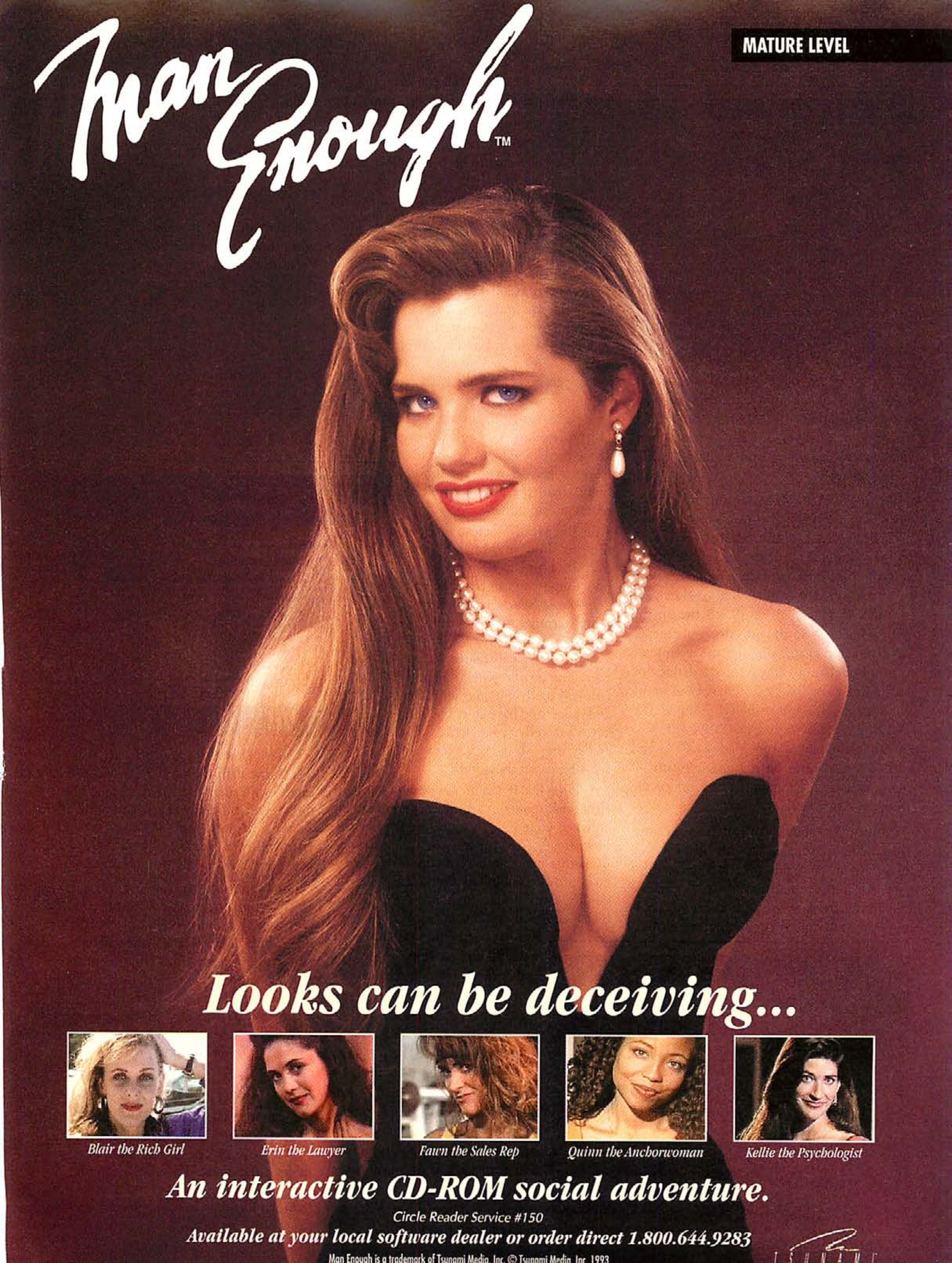


Test Flight mode lets you hop aboard one of the six planes and take it for a spin without the distraction of other pilots attempting to thread a missile up your tailpipe. Test Flight's

Chuck Yeager's Air Combat



TITLE:	Chuck Yeager's Air Combat
PRICE:	$59.95
SYSTEM:	Macintosh
REQUIREMENTS:	68020 or better, System 6.07 or higher, hard drive with 2.8MB free for B&W/4MB free for color, 2MB RAM for B&W/4MB RAM for color when running System 7
PROTECTION:	One time question on installation
DESIGNER:	Original DOS version by Brent Iverson, Macintosh version by Mark Adams
PUBLISHER:	Electronic Arts San Mateo, CA (415) 571-7171



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Location option places your plane on the runway, on a final approach to the runway, or at an altitude of 10,000 or 40,000 feet, so you can practice such skills as taking off, landing, maneuvering and spinning wildly out of control.

When you Create a Mission, up pops a dialog box from which you choose one of the six aircraft at your command and then select from a list of 17 enemy aircraft. Options include three different opposing planes with as many as five of each. You also select your altitude, whether you approach the enemy with a tactical advantage, disadvantage or neutrally, and again, whether the enemy are chumps or champs. The resulting dialog box looks something like this: "There I was in my P-51 at 20,000 feet, when I jumped five B-29s, three Yak-9s and two MiG 17s. The guys in those planes were mediocre." As you can see, you have the dubious pleasure of being vaporized by aircraft from any of the three time periods.

Historic Missions consist of 16 or 17 missions, ranging from easy to difficult, for each of the three eras. Your aircraft is selected for you, as is the enemy's. Missions include everything from escorting bombers to strafing a slow moving truck to snatching a MiG-15 and flying it to the enemy base in order to cash in on a $100,000 reward.



With Campaign mode, you really start to get serious. Select an era and a side, and listen up while the General gives you a rough idea of your assignment. After successfully completing each mission, your cumulative campaign stats are presented and it's on to the next job. Once you've finished all the missions, a splash-screen informs you that the tour of duty is at an end, and it's time to go home for a well-deserved rest. Incidentally, flyers eager for a quick ticket back to the old homestead should choose to fly for Germany and Korea in the first two scenarios. Luftwaffe pilots need only fly seven missions versus the U.S. pilots' ten, and the Koreans get off with two fewer flights than the boys who bleed red, white and blue.

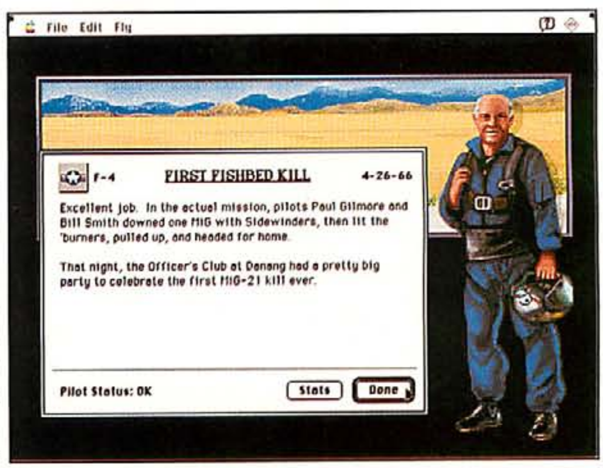
Finally, Head To Head mode is time to show that bovine creep over in Human Resources just how tough you can be when you go *plano a plano* over the network. Simply arrange for the two of you to log on over AppleTalk, EtherTalk or TokenTalk, agree via the Chat line on the type of aircraft you will be flying, your altitudes and range, and have at it. The sim keeps a record of your aircraft kills and rating—rookie, veteran or ace—based on those kills.

As if the five flying modes weren't enough, *Air Combat* contains a number of goodies that enhance your flying experience. Under the Help (read: *Cheat*) menu you can select options that make your plane invincible to attack, provide unlimited ammo, ensure a safe landing every time, and disable the disabling black- and red-outs. You can also elect to display help windows that detail your flight envelope, location, and enemy's position and competence. And for those who desire the expertise of America's greatest living wingman, the Yeager window pops up with helpful tips from a digital representation of the Great One himself. *Air Combat* also supports multiple monitors, several external views and magnifications, the ability to save and play back your missions as QuickTime movies, and time-compression (speeding up the action during those times when you have a tediously long flight home after the heat of battle).

The Look

Air Combat uses the now-traditional method of representing objects outside the cockpit as geometric shapes. Grass is green, sky is blue, haze is represented by banded white lines at the horizon, and clouds are decidedly round and globular objects that float about obscuring your view. Plastered to the windscreen is the Heads Up Display (HUD), a digital readout that displays such critical information as altitude, speed, heading and vertical speed. Although the HUD is a fairly recent innovation, you have the option to display it in aircraft from all three eras.

The cockpit design is where the DOS-to-Mac port is most apparent. Overall, the look



is strictly IBM: fat and cartoonish. Far more disturbing than the aesthetics, the gauges are rendered in such a way that you can only get the vaguest sense of what they indicate. Pilots desiring an authentic WWII flying experience will find themselves at a disadvantage when flying with only the cockpit controls.

Completing the *Air Combat* package is the 192-page manual that, aside from needing a fairly stern copy edit, is chock full of fascinating details. Once the documentation leads you through the various controls of the different planes, you are treated to explorations of a number of topics including flight dynamics, air combat tactics, weapons training, and the history and specifications of the aircraft found in the simulation.

The Feel

Currently, **Graphic Simulations'** *Hellcats Over The Pacific* and the recently introduced *F/A-18 Hornet* are the aces of Macintosh flight simulations. Their smooth movement and outstanding graphics make them tough to beat. *Air Combat*, although exhibiting mo-

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tion that is noticeably superior to that of Microsoft's *Flight Simulator 4.0*, is not up to the level of *Hellcats* or *Hornet*. Although *Air Combat* responds as readily as the Graphic Simulations products, the frame rate is slower and lacks the competition's seamless fluidity.

Air Combat's planes are also harder to fly than those in *Hellcat* or *Hornet*, but then, that's not necessarily a bad thing, depending on your flight sim needs. Try as you might, you will never, *ever*, be able to stall in *Hellcat*. Oh sure, you can climb and climb and eventually start falling back to earth, but the engine will never give out, and once you've got your nose pointed toward the horizon, you're back on track. *Air Combat* is more realistic. If you crank back on the stick during take-off, dollars to doughnuts, you'll stall out and find yourself in pieces on the runway. Not only that, but the stall function is tuned differently for each type of plane. The P-51, for instance, is fairly tolerant of steep climbs, whereas the FW-190 is extremely touchy. Pilots using the Gravis Mousestick II should be particularly careful. A tug on the stick that would send a Hellcat into a gentle climb will cause any plane in Chuck's air force to find the ground in a hurry.

Given this attention to what some might consider a niggling detail, it's hard to imagine how *Air Combat's* designers could leave out one of the most important controls on any aircraft: the rudder. You know, that little flap on the tail that allows you to turn to the left or right. Without a rudder, landing—already a difficult task—becomes a real chore. Instead of drawing a rough bead on the airstrip and fine-tuning your approach with the rudder, you must bank the aircraft to make adjustments—a maneuver fraught with danger at low altitudes. *Air Combat* ameliorates this situation to an extent by not being choosy about where you land. If you miss the strip, you can land on the nearby turf without additional jostling. Heck, if you really blow it, you can plow right through hangars and farmhouses without a scratch; excluding the ground and other planes, mountains are the only objects that present a danger when collided with.

The End

But look, I'm not a pilot. I'm playing around with this thing for the simple pleasure of blasting other flying machines out of the air and the thrill of commanding a vehicle that in real life I wouldn't get within 100 paces of. Is *Air Combat* entertaining? You bet! Does it offer a variety of options that guarantee that I will not soon stick the box on the shelf? Without doubt. Do I wish that the folks at Electronic Arts had supplied me with a rudder, a graphic designer who didn't skimp on the detail, and motion as smooth as that found in products made by Graphic Simulations? Amen to that! Is the program completely realistic? I really wouldn't know. What I do know is that a sim with the number of features, variety and responsiveness of *Chuck Yeager's Air Combat* is worth a test flight, especially for we Mac-types who must live on a thin diet of top-flight games. CGW


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The Laser Gun Is Mightier Than The Laser Sword

Psygnosis' Game Of Multi-player Mayhem—*Hired Guns*

by Douglas Seacat

Some gamers are ashamed to admit it, but it's fun to lug around an extremely large gun and blow holes in things. Trap a normally pacifistic gamer in a room with hordes of ruthless aliens, hand him a grenade launcher, then sit back and watch the shrapnel fly. Even better, throw four friends together in the same place, armed to the teeth, and things get much more interesting. This is the multi-player fun, violence, and excitement that *Hired Guns* brings to the computer screen.

It's A Setup

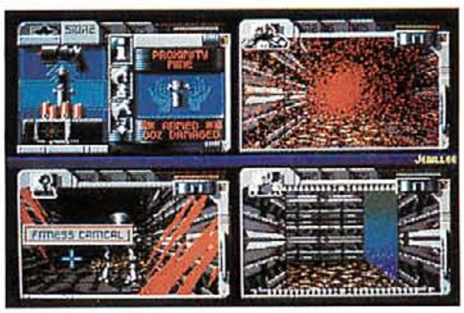
Rorian Deevergh has assembled a motley team of the most capable and loyal criminals in the Luyten system. These 12 mercenaries kill for pay, their services open to anyone with enough untraceable Rare Earth Elements to meet their costs. Now they've taken a job on Graveyard, a moon where a failed terraforming attempt has left the world harsh and dangerous. The weather is unpredictable, floods are common, and the entire planet is regularly bathed in radiation. To make things worse, the terraforming complex is guarded by genetically engineered weapons of war.

Once on the moon, a team of four must penetrate Graveyard's defenses, find the fusion power rings, and blow the starport into oblivion. Certain questions are left unanswered. Who hired Rorian's team? What is the strategic importance of Graveyard? Why destroy half the moon in an enormous fusion explosion? None of this matters to a team of *Hired Guns*—they are paid to kill, not ask questions.

Practicing at the Range

The game adequately prepares its players for their stint as mercenaries. Included are four manuals covering game play and background information. Training scenarios and short action games have been included to let the players master the game system. All the scenarios can be played with one to four players.

During the practice scenarios it's a good idea to experiment with the characters to get a feel for their strengths and weaknesses. The only two stats are Physique (which determines toughness and strength) and Agility (which helps reduce damage when falling). The only other important difference between mercenaries is their equipment and weaponry, determined by profession.



The five training scenarios are extremely easy, providing a good way to familiarize the newcomer to all the controls. The game screen is divided into four windows, each representing one of the four characters. These windows can be toggled between four settings: a 3D perspective view, an inventory control screen, an auto-mapping display, and a list of the character's personal attributes.

Movement is handled with the mouse by clicking on various spots in the window, allowing the character to turn or move forward, back, or to the side. Clicking in the center of the screen fires a weapon or uses an item. Weapons are reloaded (given a supply of ammo) by clicking the right button. The system is reasonably fluid, although it is easy to accidentally fire a weapon by clicking on the wrong spot of the display. Other input devices can be used in the three or four person games, such as joystick or keyboard. One or two players are stuck with the mouse.

The "Short Action Games" are very difficult, a marked contrast from the training scenarios. They require a quick and sure hand on the mouse, lots of firepower, and are always a race against the clock. Given that Psygnosis has included 17 different short action games, *Hired Guns* can be enjoyed without even playing the full campaign game. These mini games provide a good arena for multi-player action, particularly with a group which wants to kill each other more than the external foes. Nothing relieves stress like gunning down your "friends" with automatic weapons. My group of testers frequently had to "start over and do it for real" since it's so tempting to turn traitor. All in good fun, and who says mercenaries have to be loyal?

Into the Breach

Once your reflexes are sufficiently honed, it's time to start the real game. You should choose characters carefully, because once the game begins, you're stuck with what you've chosen. Even though all 12 mercenaries are at the drop site on Graveyard's surface, only the four characters initially chosen continue through to the mission's completion. More limiting, the chosen number of players is unchangeable, making it impossible for one player to step out of the game and let the others continue.

The full campaign game stretches across 19 different locations as the team moves toward the starport, collecting fusion rings. These locations are accessed by a nicely rendered map of the region. Once a location has been "solved," it can be ignored for the rest of the game, although players can re-play the region if they wish to explore for more supplies. Marring the

Hired Guns



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PRICE:	$59.99
SYSTEM:	Amiga
REQUIREMENTS:	1MB RAM, 512K graphics memory for enhanced sound; supports hard drive installation
# OF PLAYERS:	1-4
PROTECTION:	Code look up
DESIGNERS:	DMA Design
PUBLISHER:	Psygnosis Cambridge, MA (617) 497-5457

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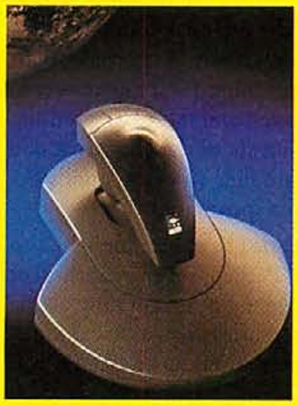
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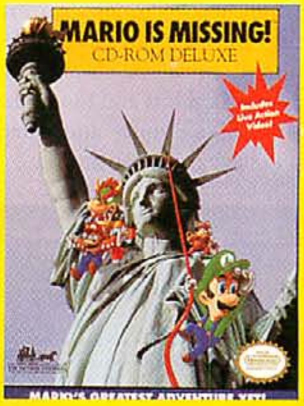
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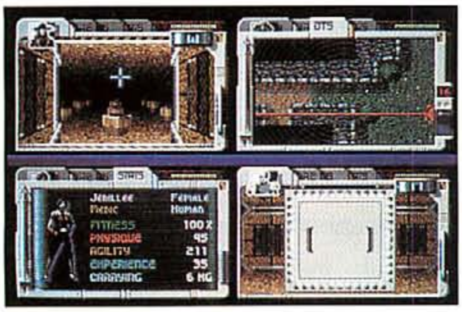
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game's illusion of progress, if a region is "re-explored," all the foes and equipment are reset, a throwback to older, less sophisticated dungeon crawls.

Each location is reasonably large and thoughtfully designed. The team will need to move carefully and have weapons ready at all times. Although this is a pure combat game (there are no "good guys" on Graveyard; everything that moves is deadly and must be killed), the combat is well modulated. Fools blindly rushing forward die a quick death by overwhelming numbers of tough creatures. Playing tactically and carefully is rewarded, since ammunition must be found and wounds fixed by medical kits and food. Players who establish killing zones and careful sentry points will have the most success.



A certain degree of problem solving has been included in the game. While there are no complex moral dilemmas or plot twists (indeed, once one begins the mission, there is no plot at all), the unthinking player will not get far. Areas must be explored thoroughly to find the passcards and keys needed to continue. Further, it is often beneficial to divide the team, sending particular members into different areas to cover as much ground as possible. This is particularly true since most regions are partially flooded. Humans in the game (including the cyborg with the human brain) need air to live and will quickly drown if neglected. Even robots who don't breath may carry equipment which rots when exposed to water, forcing a player to pay attention to his inventory.

Perhaps most important is proper deployment of the team's weapons. The game boasts a broad spectrum of firepower. There are many different types of guns, rifles, lasers, flamethrowers and explosives. Gun types use different ammunition, so it's a good idea to equip people with different classes of weapons. Proper use of weapons is crucial. A grenade has a wide blast radius, which can be dangerous in close quarters. Similarly, while a flamethrower doesn't do much damage, it can go through multiple foes and penetrate force fields.

Napalm in the Morning

Hired Guns has a flavor all its own. The designers have done a good job of providing an entertaining gaming atmosphere. The four different windows allow for a unique perspective on the 3D environment, and the interesting variety of weapons and weapons tactics help immerse players in the game's darkly violent mood.

Sound is handled particularly well, if you have the necessary expanded memory. The environment is evoked in dripping water, falling rain, and the ominous sound of footsteps approaching closer. A grenade blast starts with a distant thump and roars closer as it nears the character, and there is something uniquely reassuring about the crisp click of a magazine of 9mm High Velocity rounds being reloaded into a spent gun.

The game scenarios have been designed to heighten tension. Perhaps the biggest thrill of the game is the feeling of uncertainty as the overworked mercenaries open a new door or take a lift up into the unknown. Tension is achieved by lulls between action. Much of the complex can be explored in relative safety, nervously moving down long corridors, glancing frantically in every corner. Just when the players begin to relax, a troupe of Robodyne 7000 robots will fall upon them, ripping them into bloody bits.

The game takes on a new dimension when played with several people. Trying to coordinate a team of four is difficult and entertaining. This opens a broad range of tactical possibilities since different groups of players can be performing independent functions. Tensions are easily escalated in this situation, leading to fantastic moments of surprise. A player using a grenade might not realize a teammate is in the blast radius, blowing him to smithereens. Trigger happy players can shoot down friends reflexively when they step in front of them. Inexperienced teams may cluster too close together, leaving no room for the wounded character in front to escape. Such situations of frantic panic are rarely found in single person games.

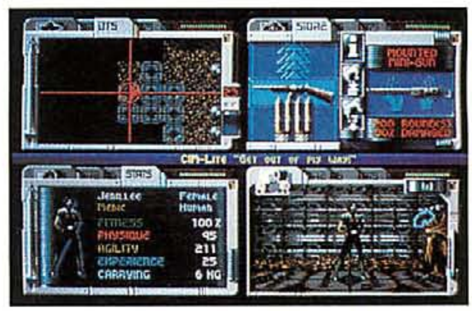
Fire in the Hole

While I was initially overjoyed at the volume of documentation, this quickly turned to disappointment. The four manuals are thorough, but flawed. The source material is marred by a lack of quotation marks and apostrophes which make them annoying instead of interesting to read.

Hard drive support is unusual for Psygnosis, and a welcome change. This advance is offset by extremely intrusive copy protection. At apparently random intervals, the game requests a code from a huge list. Entering the code once doesn't stop future requests, which can number in the dozens per game session. The game sometimes requests a code when saving, which is frustrating since the deadly nature of the game necessitates frequent saves.

If played with four human players, two people end up on the keyboard. Unfortunately, the designers forgot to include the ability to slide left and right with the keyboard layouts. Sliding is a good tactical method of movement, allowing a person to keep a single direction of vision while moving. I can see no reason why this feature was neglected for keyboard players.

Certain sacrifices have been made with graphics quality to allow for four independent characters. For this reason, the graphics are not as impressive as usual for Psygnosis. The most glaring example is the fact that items found in the game look nearly identical until they're picked up, requiring players to pick up every item to see if they need it.



Manipulating items is generally tedious. Inventory handling could be better in several ways. An easy method to exchange items between party members would have been nice. Right now, players must drop items and let them be picked up. Worse, only one item can be dropped in a location at a time.

Shoot to Kill

Despite the flaws, *Hired Guns* is a surprisingly enjoyable game. There is little plot, and most of the game involves killing without being killed, but still, there aren't many games on the market that allow four people to play simultaneously and independently.

Aside from the copy-protection, game play is smooth and quick. As a tactical action game, *Hired Guns* is viscerally satisfying and provides an interesting and exciting backdrop for mercenary violence. Just remember to keep assault rifles loaded, the fluoride laser dry, and try to avoid tossing grenades into the back of your partner's head. CGW

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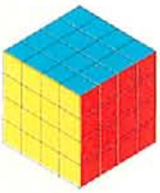
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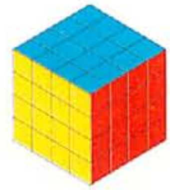
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THIS CUBE IS NOT FOR RUBES



Aris Entertainment's *Video Cube Space* Puts A New Spin On An Old Idea

by Gordon Goble

In the early 1980s, Erno Rubik placed a new toy in the fidgeting hands of the world. In case you've just fallen off of the turnip truck of pop culture, Rubik's Cube was a 3 x 3 block of small cubes magically held together to make a larger one. The object of this exercise was to twist and turn the blocks so that each side of the large cube became a single color. True masters of Rubik's Cube could solve the puzzle in less than a minute and were forever enshrined on silly television programs.



Aris Entertainment has taken Mr. Rubik's invention and moved it to a two-dimensional canvas—the home computer screen. Instead of simply matching colors with one another, *Video Cube Space* players are required to unify small segments of a larger digital image, generally one of the U.S. space program. If the daunting task is finished in the allotted time frame, players will be rewarded with a short, full-motion video clip, accompanied by various *w-a-a-a-y* cool rock/funk musical scores.

But before you get completely cubular, you must first determine if your computer system meets the *Video Cube Space* standards, and high standards they are. A 386-33MHz machine is mandatory (a 486-25 is recommended), as is a CD-ROM drive with a 150K/second minimum data transfer rate, *Windows 3.1* or better, at least 4MB RAM, and an SVGA display with at least 512K of video RAM. In addition, to enjoy the "shredding music" [sic] of *Video Cube*, an MPC compatible sound board is a must. If your gaming apparatus makes the grade, read on....

Video Cube Space is installed and accessed through the *Windows* Program Manager. Being a CD-ROM based product, installation is complete in less than a minute and will usurp less than a MB of valuable hard disk space. An Aris program group and icon are automatically created for future use.

Once the program is loaded, and against a blackened backdrop, the Video Cube appears. Lining the right hand side of the screen are several icons permitting *Video Cube Space*-cadets to choose a game, save a game, pause, signal for help, select from game options (of which there are few), and quit when fully spaced out. At the base of the screen is a timer and point counter. That's it—the entire game rests within the cube itself.

Made up of several smaller squares, the Video Cube sits squarely in the middle of the screen. Just one side of the Cube is visible at any time, and in each of its miniature components is a portion of a digitized photograph. There are a total of six images in each of the 18 game levels, and one must "turn" each mini-cube so that the appropriate side faces forward, until a completed image is visible across the entire large cube. In the opening levels, each of the six images are quite distinct (a red Mars, the big blue marble of Earth, a space shuttle) but naturally, things get progressively tougher in the later going.

At the first level, the cube is made up of just 16 smaller components (4 x 4), the second level cube consists of 25 (5 x 5), while those challenging the third level will have to sort from 36 (6 x 6) image bits. The cube never swells above this size, but the images themselves become visually less distinct from one another as time goes on.

Complete a still image of, say, a space-walking astronaut, and (after a brief delay) a quick "full-motion" video of his daring deeds will spring to life, complete with musical accompaniment. Unfortunately, even though the 486-33 machine used for testing met with program minimums, both the video and audio were somewhat choppy. Recommended alterations to boot files in both DOS and *Windows* produced improved audio, yet video remained wanting.

Video Cube Space is nevertheless quite compelling, and one gets a real sense of accomplishment from putting together all six images within the allotted time. As the game progresses, though, this process becomes very difficult indeed, and this fact brings us to our Tip O' The Day, once again free of charge to those who've actually purchased this magazine. (Those who haven't will suffer grave disasters somewhere deep within the innards of their hard drives).

When time is truly of the essence, simply save, then reload that specific game. Voila...while credit is still given for completed images, the clock has automatically been reset! While in some circles this may be considered cheating, others have allowed their general moral decay to corrupt their gaming habits. We aren't proud, but we finish our games.

Video Cube Space neither requires nor offers a manual, and the *Windows* "Help" file should surely suffice. Wrapped in what has to be the most expensive packaging that this reviewer has yet to see (a cardboard topographical mystery in itself), *Video Cube Space* is light entertainment for those who enjoy hard-edged rock and roll with their digital puzzles. The surf meets punk meets funk music is great if you've the taste for such, and the video adds to the excitement, but certainly no one can accuse the game of being too complex. You won't be asked to appear on *That's Incredible* if you finish all the puzzles, but then again, you don't have to be an idiot savant to solve the thing. Perhaps a bit pricey for the play value it offers, *Video Cube Space* might still be a good discounted buy for the casual gamer. CGW

Video Cube Space



TITLE:	Video Cube Space
PRICE:	$49.95
SYSTEM:	IBM
REQUIREMENTS:	386-33MHz or better, 4MB RAM, VGA graphics, Windows 3.1, MPC compatible sound card
PROTECTION:	None
PUBLISHER:	Aris Multimedia Entertainment Marina Del Rey, CA (800) 228-2747

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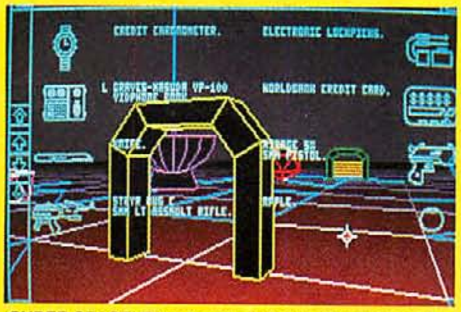
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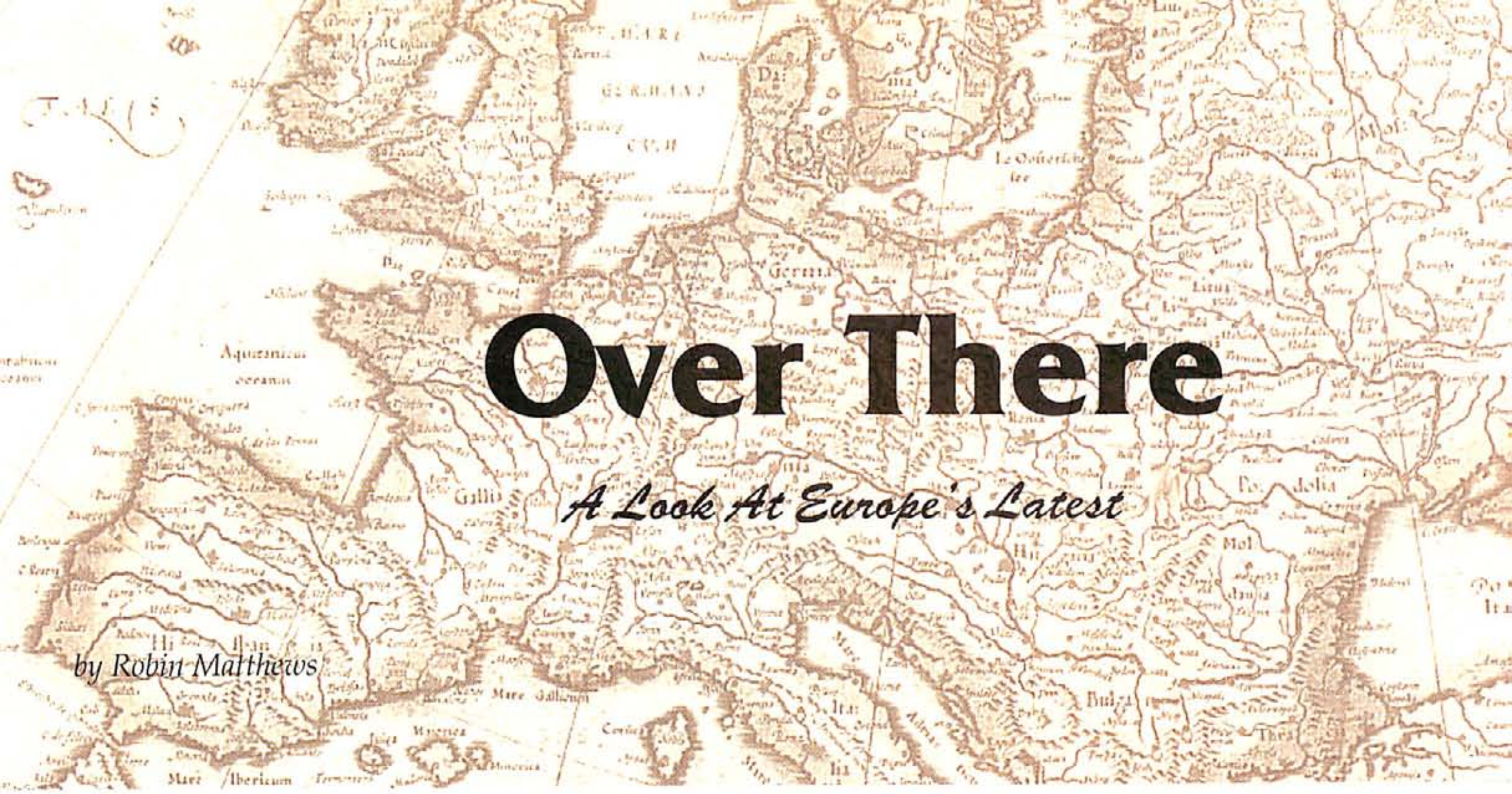
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Over There

A Look At Europe's Latest

by Robin Matthews

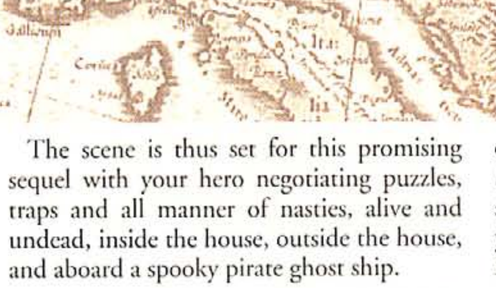
One of the surprise hits in the last year or so was **Infogrammes**' *Alone in the Dark (Alone)*, published in the States by **I-Motion** and distributed by **Interplay**. A stunning 3D horror adventure, *Alone* received critical acclaim from virtually every corner of the PC world. A sequel, *Alone in the Dark 2,* subtitled *Santa Claws is Coming to Town,* will be released shortly. Roll titles, cue actors, lights down and run flashback sequence #1....

The 24th of December, 1721. The high seas around the anarchic island of Haiti. His Majesty's ship *The Flying Dutchman*—a fine vessel if ever there was one—is attacked by buccaneers led by the infamous pirate, One-Eyed Jack. Blind in one eye, he seems to have been compensated for the loss by the gift of second sight, especially with regards to the whereabouts of British merchant ships. *The Flying Dutchman* is boarded and her only treasure, Elizabeth Jarret, is taken....

Cut flashback #1, cue continuity and run flashback #2....

The 24th of December, 1924. California. Prohibition, bootleggers, machine guns and gang law. Ted Sticker has been investigating the kidnapping of a young girl by the notorious gangster, One-Eyed Jack. Ted has not been heard of for a week, and his close friend and Supernatural Private Eye Edward Carnaby decides to check things out. One-Eyed Jack's gangland hideaway is Hell's Kitchen, a dark and forbidding residence set high on a cliff somewhere between L.A. and San Francisco. This house overhanging the Pacific ocean is where Edward Carnaby will pick up the threads of two disappearances....

The scene is thus set for this promising sequel with your hero negotiating puzzles, traps and all manner of nasties, alive and undead, inside the house, outside the house, and aboard a spooky pirate ghost ship.



Infogrammes' Alone in the Dark 2

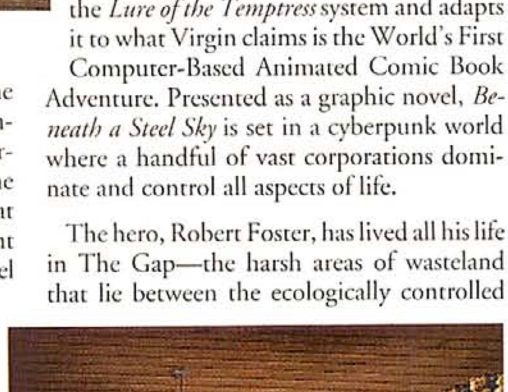
The backgrounds and objects in the game have now been animated, and special attention has been paid to making all of the character animation more realistic. The quirkiness of movement in *Alone* did give that product its own feel, and although movement has been greatly smoothed out, this sequel very much retains the flavor of *Alone.* The pre-release version has animation four times as quick as the first game, and Infogrammes hopes to improve this further.

Because of several costume changes during the story, *Alone 2* will offer only one male character, instead of the equal complement of sexes as in the original. Monsters are now more intelligent and will track you. And the multiple camera-angle approach is further refined, resulting in some superb cinematic sequences. So, on the basis of a preview copy, this seems to be more of the same but better. *Alone in the Dark 2: Santa Claws is Coming to Town* should be shipping in France on both disk and CD as you read this. The world-wide release, via I Motion and Interplay, should take place very early in the new year.

Smelting Cyber-Steel

Virgin Games, still basking in the not inconsiderable glory of *The 7th Guest* and **Westwood**'s *Lands of Lore,* is preparing to release its next blockbuster in *Beneath a Steel Sky.* The second game from **Revolution Software** using their *Virtual Theatre* game engine, *Beneath a Steel Sky* develops the *Lure of the Temptress* system and adapts it to what Virgin claims is the World's First Computer-Based Animated Comic Book Adventure. Presented as a graphic novel, *Beneath a Steel Sky* is set in a cyberpunk world where a handful of vast corporations dominate and control all aspects of life.

The hero, Robert Foster, has lived all his life in The Gap—the harsh areas of wasteland that lie between the ecologically controlled



The animation in Alone 2 is much faster than in the original.

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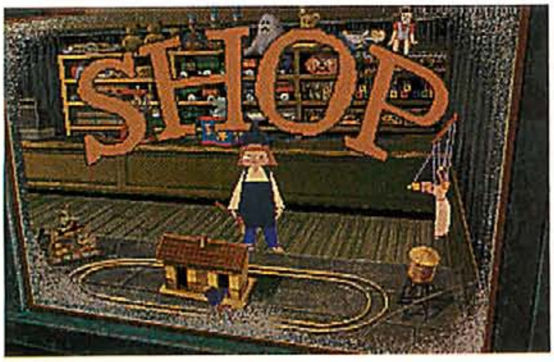
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Alone 2 uses multiple camera angles to create a cinematic atmosphere.

cities. Existence in The Gap is tough, but life has been fairly peaceful. All of a sudden security forces raid The Gap, destroying gap dwellers, and take Foster to the city. The adventure now starts in earnest and you, taking the role of Foster, must find out what lies behind your abduction. The city is ruled by an authoritarian and ruthless council that stamps out any form of rebellion or dissent, and keeps an iron grip on ever-precious information.

With the help of your robot buddy, Joey, you travel throughout the city, meeting friend and foe and trying to win over the trust of those who can help you. The answer must be here, but can you find it? Strong, aggressive graphics created by Dave Gibbons *(Watchman, Give Me Liberty)*, a throbbing sound track, and a much smoother version of the *Lure of the Temptress* engine promise to pull you into the world. *Beneath a Steel Sky* claims over 100 different locations (over four times the size of *Lure*), and its non-player characters react according to your approach. The producer of *Beneath a Steel Sky*, Virgin's Dan Marchant, says that "the combination of Revolutions' *Virtual Theatre 2* engine and Dave Gibbons comic book graphics create an adventure with a completely new style and level of interactivity."

Beneath a Steel Sky should be available as you read this on PC and Amiga formats, with a CD version (definite) and an Amiga 1200 version (possible) to follow.



Beneath a Steel Sky *is based on Revolution's* Virtual Theatre 2 *engine.*

A Dip In The Pool Hall

Also from Virgin is a billiards game based on the *Jimmy White's Whirlwind Snooker* engine. In the European version, Virgin has made an odd titling decision, naming the new pool game after *Whirlwinds*' designer, Archer Maclean. In the US version, Virgin may find another "celebrity" to endorse *Archer Maclean's Pool*—perhaps *Tom Cruise's Pool* or *John Cleese's Parrot Game*? Whatever they come up with, the game will feature three styles, 8-Ball UK, 8-Ball and 9-Ball US, and will sport the slick interface and graphics that made the snooker version the best hustler in town.

Does The Title Say It All?

Silmarils is about to release *Ishar 2—Messengers of Doom*. The title may well prove to be prophetic. The game's predecessor, *Ishar 1* and the earlier *Crystals of Arborea*, were both pretty grim, and part two doesn't look that much better. *Ishar 2* is a traditional fantasy role-playing game with average graphics, a dated interface, and is very continental in approach.



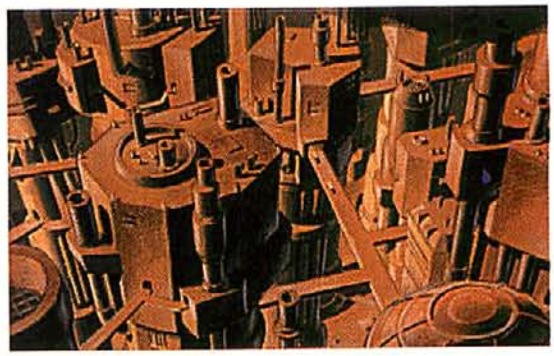
Virgin Games' Beneath a Steel Sky

This means some really quirky features such as an in-party voting system to carry out main team functions. For example, you have a series of committee meetings every time you want to join or dismiss a member of the party, and in combat or discussions, some players may refuse to assist others because of some old outstanding grievances.

Life with and without computers can be stressful at the best of times without all this! One useful option however is the ability to "assassinate" party members, but perhaps this might be applied to the game as a whole. *Ishar 2* is in Europe now, and in its current form is unlikely to appeal to a wider US audience.

Guido Antonio Kuragawa And The Ninja Mafiosos?

The final title this month is, well, different. *Nippon Safes* is a graphic adventure set in Japan and designed in Italy. Within in the fictional city of Tyoko (hmm...), you control three characters in the *Gobliins/Day of the Tentacle*-style—that is, one at a time. Their very carefully chosen names are Dino Fagioli, Doug Nuts and Donna Fatale. The arch villain bares the equally subtle name of Shady Type, and you must save the known world from the machinations of this madman. Stereotyped oriental characters, sushi bars and some very tall buildings litter the landscape of this strange game. It has average graphics and is a bit buggy, but it has an over-the-top sense of humor. And how many Italian games set in Japan will you see this month?



The future according to Beneath a Steel Sky.

The above games and any of the other games mentioned in past columns can be obtained from:

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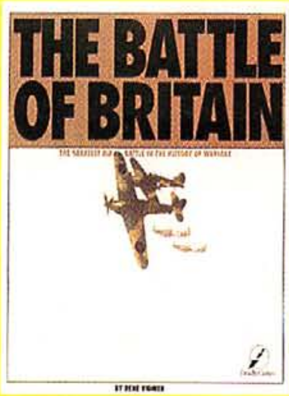
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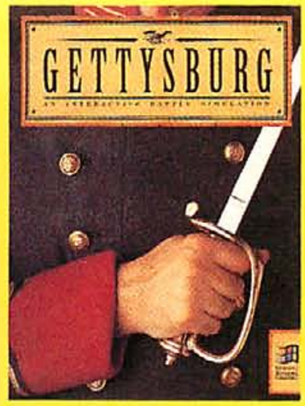
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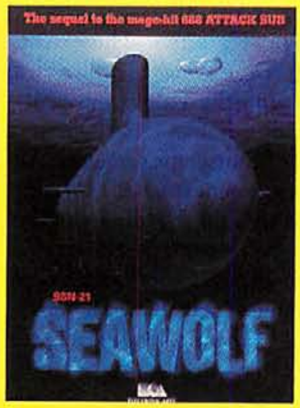
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'SSN-21 SEA WOLF' is the sequel to the smash hit 688 Attack Sub. A crisis has erupted and fighting between the US and Russian's navy has occurred. As the commander of the SSN-21, you are ordered into battle to destroy the fleet. Features over one hundred 16-bit digital true stereo effects. **$48**



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Circle Reader Service #45



Unleashing The Undead

Viacom New Media Re-Vamps Their Game Engine For *Dracula Unleashed*

by Chuck "Van Helsing" Miller

"Never had I encountered anything that begat such dread and horror. Sleeping by day and stalking by night, it was a beast: ravaging the earth to quench its thirst through the blood of the living.

"Only with the help of trusted friends, Quincey Morris and Jonathan Harker, were we able to identify the beast, drive it back to its castle in Transylvania, and destroy it there. Yet, one questions whether one can truly kill something that had never been alive."

So begins the story as American Alexander Morris, brother to the late Quincey Morris, arrives in London. His goal, and that of the player's, is to identify the cause behind his brother's death and to determine the exact nature of the events transpiring since.

Is That You, Holmes?

From **Viacom New Media** (formerly **ICOM Simulations**), the creators of *Sherlock Holmes Consulting Detective*, comes their most compelling interactive adventure yet, *Dracula Unleashed*. Based upon a revised version of the game engine used in the three *Sherlock Holmes CD* volumes, *Dracula Unleashed*, guides the player into what I believe is the most effective "interactive movie" to date. This horror title builds upon the foundation laid in the Sherlock games of logic and deduction, directing the player into a more atmospheric and gripping experience than previously offered. Danger is an ever present element in this tale of darkness, with death lurking around every corner and evil hanging ominously in the air. Yet for all its advancements, improvements and increased playability over previous titles, *Dracula Unleashed* still has its foibles and failings. Fortunately, none were so draining as to keep this night stalker from sinking his teeth firmly into the action and continuing until the Count had been eternally dusted.

Dark Shadows' Barnabas Collins would be proud of Viacom's efforts were he still hanging around our TV screens today. In some ways, *Dracula Unleashed* reminds me of that late '60s/early '70s TV series. Those who fondly remember *Dark Shadows* will feel a touch nostalgic visiting the settings, especially some of the London homes ca. 1899, the Hades Club and, of course, the cemetery. All of Viacom's sets were constructed in traditional Hollywood style for the filming of the game, rather than being computer generated and composited with live actors by means of blue screen techniques (as in *Return to Zork*). As such, they look authentic, lending a sense of realism to the game world.



I was also reminded of the aged ICOM adventures *Deja Vu I & II*, *Shadowgate* and, specifically, *Uninvited*. Having come down through the same lineage, *Dracula Unleashed* embodies a similar game design, requiring a great deal of experimentation, play and replay, in order to arrive at a successful conclusion. In *Uninvited*, for example, you could only remain in House Abraxas so long before its evil influence precipitated your death. In Viacom's newest title, you must accomplish certain tasks under preset time limits or succumb to the forces of darkness through one ghastly death or another. Both games require that you repeatedly retrace your steps to arrive at the correct sequence of events within the prescribed time or number of moves. Thus, many scenes will need to be viewed multiple times just in order to verify that the possession of a specific object or a different time of arrival hasn't changed the outcome of the visit.

Multiple pathways are also employed in the game. Actually, it may be more accurate to say that there are several minor branches off the main path that result in a slightly modified series of events and conclusion. For example, the goal is to solve the mystery and complete the game without losing any of your companions. While this is the ideal, it is possible to lose some or even most of your allies during the game and still defeat Dracula. Careful experimentation can easily prevent these losses.

Silicon sleuths who have helped Holmes solve his cases in *Sherlock Holmes Consulting Detective* will immediately notice the extra sizzle added to *Dracula Unleashed*. Most noticeable is the move to Super VGA. While a standard VGA interface is available, those with a VESA compatible graphics card will have the pleasure of viewing and playing this interactive horror game in its finest form. Crisper, more detailed graphics grace the user interface, with different backdrop "frames" provided for each game location. Video compression has also been improved to provide cleaner, smoother video playback of a higher quality than in previous efforts. This is especially important as most of the game is spent watching the 90 minutes of video footage packed onto the disc.

Icons And Graven Images

Also improved are the game's use of icons for user interaction and the VCR

Dracula Unleashed



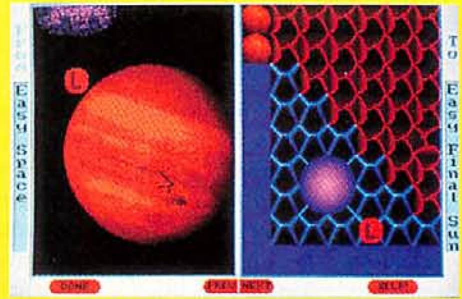
TITLE:	Dracula Unleashed
PRICE:	$69.95
SYSTEM:	IBM with CD-ROM
REQUIREMENTS:	386-20MHz or better, CD-ROM drive (150K transfer rate and 350ms seek time), 4MB RAM, VGA graphics, mouse; supports Sound Blaster, AdLib Gold, Sound Master II, Microsoft Sound System and Pro Audio Spectrum sound cards
PROTECTION:	None
DESIGNERS:	Anthony Sherman, David Marsh and Karl Roelofs
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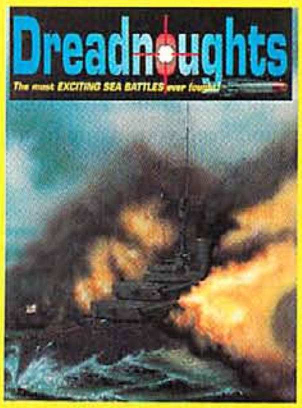
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controls employed for viewing the video segments. Icons are at your disposal for making entries into a journal, keeping track of time (so as not to be late for an appointed rendezvous, a critical game element), managing your inventory, checking directions and travel times, understanding the interface (via a help system hosted by Van Helsing), reading telegrams (often accompanied by an essential object), sleeping (a necessity to avoid falling asleep in some alley where one is susceptible to all types of misfortune) and controlling game options (loading, saving, music on/off, volume adjustment, etc.). All icon controlled functions work smoothly and intuitively.



Video playback controls have seen improvement, as well. In addition to VCR-like buttons for replay, play, pause and stop, you can also rewind or fast forward through each scene by sliding a scroll bar back and forth.

Vampire Hunting 101

Several elements are especially critical to playing *Dracula Unleashed* and should be explained clearly to the fledgling vampire hunter. Time is valuable. You must effectively manage your time during play, as traveling, conversing and sleeping all consume it in varying degrees. Time must also be monitored carefully in that events occur even if you are not at the scene when they transpire. A significant amount of experimenting is required to know exactly where to be and when to be there. To help you in your time management, see "A Vampire Hunter's Guide to Travel Times In London," a table that provides travel times in one handy reference.

Readiness is also an important concern. Being at the right place at the right time serves no good if you do not have a necessary item and have it in hand. Simply having an object in your inventory is not enough; if you don't have an address in hand when you wish to send a telegram—tough luck. Thinking ahead is crucial, as is frequent saving and experimenting with different objects at each location. Here, it is always wise to save before entering a location.

The third primary concern in *Dracula Unleashed* is that of proper rest. You must return home and sleep each night, or be prepared to collapse in some alley and wake up sans soul. Keeping these concerns in mind will help insure success and keep your name from popping up on a headstone.

When The Undead Are Acting Up

With the recent blending of Hollywood and the computer gaming industry in an effort to create new interactive titles on CD-ROM, a need has arisen to employ human actors in the computer game design process. Early endeavors were overwhelmingly disappointing in this regard, as professional actors were used sparingly. Many developers simply made use of existing staff to fill their need, usually with less than satisfactory results. Fortunately for all concerned, *Dracula Unleashed* features a cast of competent, even memorable, actors and actresses who make the game highly believable.

As much as I liked *Dracula Unleashed,* I must confess that I found it guilty of some lesser sins that detracted from play. While sound quality was generally good, with clear speech and haunting music, I detected noticeable audio feedback during some video segments. A persistent "hum" could be heard as many scenes played. Whether this is a characteristic of the recording or a result of my sound card/CD-ROM combination, I do not know, though I found the hum on two similarly configured systems. I do know that I haven't had trouble with other CD titles



thus far. While not a significant issue, it was still distracting at times.

My only other criticism involves saving a game. Both save options, Save and Save As, are nested in the secondary option screen. A Quick Save button (over the previous save file) on the main interface would have been an extremely handy and time saving feature.

Though I normally prefer games that are less time/event intensive, *Dracula Unleashed* is engrossing enough that I can live with its design. And, though I would have preferred a touch more playing time and a larger game world to explore, what has been provided is sufficient to make the playing experience a valued investment. Depending on your expertise, most gamers should expect between 15 to 20 hours of play to ultimately bring Dracula to his knees.

Access from the CD-ROM is quite good with a double-speed drive and no CD cache running (it is recommended that you NOT use a CD-ROM cache program with this game), while a single-speed drive will provide acceptable though less than optimal performance.

In all, much progress has been made in video compression technology and playability since ICOM released their first interactive movie in 1991. Now, under the Viacom banner, *Dracula Unleashed* exhibits a more mature technology, one that, while still open to improvement, offers a satisfying playing experience. With this little jaunt into turn-of-the-century London, computer and theater have been brought one step closer together. **CGW**

A Vampire Hunter's Guide To Travel Times in London

	Notting Hill	Paddington	Marble Arch	Kensington	King's Cross	Strand	St. Paul's	Westminster
Notting Hill	5	20	30	15	55	55	60	45
Paddington	20	5	15	30	20	40	40	40
Marble Arch	30	15	5	15	25	25	35	20
Kensington	15	30	15	5	40	40	50	30
King's Cross	55	20	25	40	5	20	20	45
Strand	55	40	25	40	20	5	20	20
St. Paul's	60	40	35	50	20	20	5	40
Westminster	45	40	20	30	45	20	40	5

COMPANY REPORT

Roaring Out Of Obscurity

The People Behind Papyrus Software And DreamForge

by Johnny L. Wilson

There is an adage in the old Hollywood that says, "There is no such thing as an overnight success." The same is true for software publishers. Almost every software hit and every successful company is full of people who have paid their dues and learned their hard-earned lessons elsewhere. Even when we consider two of the fastest growing design houses in the business, **Papyrus Software Group** and **Dream Forge Intertainment** (formerly **Event Horizon**), the excitement didn't appear overnight. In this company profile, *CGW* takes you to the offices of two companies *before* you have to say, "Who are these guys?" and "Where did they come from?"

A Stable For Workhorses

Papyrus Software, the company that developed *Indy 500: The Simulation* for **Electronic Arts** and is about to spring the revolutionary *IndyCar Racing* onto store shelves, has offices in a building with a lot of history. Originally, the building was a meat-packing plant that served Boston, and all of the plant's drayage was handled via their state-of-the-art delivery system—horse-powered vehicles. Most of the plant's activity took place downstairs on the main floor and, in an advance that was fairly rare for its time, the horses which pulled the packing plant's wagons were stabled on upper stories constructed of suspended floors. To this day, there are rings inset within the walls where the old drayage horses were tethered.

This may seem somewhat appropriate when you understand the history of the company. The company makes most of its money out of the limelight performing programming tasks and testing suites that many other developers avoid. That wasn't the intent when Dave Kaemmer and Omar Khudari formed the company, but it seems to have worked out well.

Dave and Omar formed Papyrus when they left the prestigious educational publisher, **Tom Snyder Productions**, after a reorganization. *CGW* readers are most likely to remember TSP for the early *Sub Mission* game (where gamers who failed more than three times had to send in for new disks and pay an additional fee in order to try again) and **Infocom**'s disappointing *Infocomics* experiment.

The year was 1987, so Dave and Omar did what any sane-minded programming team would do, they called Electronic Arts. After all, EA was big enough that they should have lots of job openings. They talked to Dave Grady about the possibility. Grady filled their minds with the possibility of an outside artist relationship with the successful publishing house. Dave and Omar hopped a plane to the West Coast, fleshed out an idea on the plane and, after presenting it, got a small advance for a script treatment. Then, much to their chagrin, EA rejected the script upon its submission.



Omar Khudari shows the workhorse heritage of Papyrus's offices, formerly a meat-packing plant where horses were hitched to the walls.

Dave was undaunted, but didn't manage to get the early design for *Indy 500: The Simulation* approved until January of 1988. Omar, concerned about paying the bills, immediately began consulting on computer software of all kinds and managed to keep the two partners going. In fact, the consulting business grew so much faster than the game portion of their business, that it still functions as 75% of Papyrus' business to the present day. Both partners chuckle, though, about how many clients of the consulting business perceived Papyrus as a much bigger enterprise than it really was. Rich Hillemann, now a vice president at Electronic Arts, was the only client to actually visit them in their workspace when they were working out of their apartment.

According to Omar Khudari, the consulting business is still what pays the bills and has the added advantage of building a critical mass of talent around the unglamorous "workhorse" projects that can be borrowed for the more glamorous "thoroughbred" projects on the game side. Papyrus really likes the way that their company has grown because the near-anonymous consulting business is repeat business based upon the predictability and professionalism of Papyrus' working relationships with their client base. This provides a solid and manageable income stream, in stark contrast to the risky, hit-driven nature of the game business.

Arty-Facts

In many ways, Papyrus' name is perfectly appropriate for a state-of-the-art technology company with plans to venture further into game publishing. The reference to the ancient writing medium means that the company is ready to preserve the old techniques that work, while their vision still looks toward new techniques for the future. For example, the partners hired Dan Sherlis to run the publishing portion of the company in 1992. His charter is to turn the company into a full-scale software publisher with all of the cash, creative control and credit (in terms of recognition) that such status has to offer. He expects the company to reach and stabilize (no pun intended) at a point where they can publish five new products per year. Yet, the company still intends to enjoy certain classic developer/publisher relations like their current Sega CD project (they are developing **Access**' *Links* product for the console machine) and certain, as yet unannounced 3DO work.



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As always, Dave Kaemmer focuses 100 percent of his attention on technology and the creation of games. Omar directs the consulting group, and Dan tries to move the company toward becoming a full-service publisher. As for future plans, they would still like to publish the game that EA originally rejected, and they are experimenting with new ways to use their advanced texture-mapped technology in other genres. Frankly, I don't think it will take long before people begin talking about Papyrus' "overnight" success.

DreamForging Ahead

In the Spring of 1990, a group of three frustrated and disappointed programmers left the (then) safe haven of Pennsylvania's **Paragon Software.** They didn't care for some of the creative directions that Paragon had taken in developing both the first *MegaTraveller* computer game (an earlier Apple II program from a different company had used the original *Traveller* rules for a text-based game) and a series of **Marvel Comics** licenses. So, Jim Namestka, Tom Holmes and Chris Straka formed a company to create computer role-playing games with more role-playing elements. It was to be more of a gamers' company than a programmers' company, and that is what the software developers have tried to build.



Jim Namestka, Tom Holmes and Chris Straka burn the last of their Paragon business cards to keep warm during their "homeless" phase.

Event Horizon's original office space was on the third floor of Namestka's parents' house. The three partners purchased equipment with credit cards and lived off plastic and savings until they could get their first product, *Dark Spyre*, into the marketplace. Chris and Tom handled the programming while Jim knocked on doors and looked for a publisher. Indeed, Chris and Tom remember the days when they would have to stop programming altogether and move out to the patio so that Jim could make important calls with the illusion of having his own office.

The founding triumvirate even used a little self-deprecating humor during those early days to underline their feeling of homelessness for the fledgling company, posing for a picture where they emulated a trio of homeless men warming their hands at the fire. Later, they were able to find a more permanent home in one of the enterprise zones of Jeannette, PA. The old house in which they are currently located is being gradually remodeled and outfitted on the interior, but left with a plain urban exterior.

According to the trio, the secret of the company's success was that they managed to put out products in a six month development cycle rather than the more leisurely pace that other software houses could afford. By the time *Dark Spyre* was completed, they had a publisher in **Electronic Zoo,** a company that imported titles from Europe and needed additional product. Electronic Zoo didn't last very long, though, and Event Horizon had to search for a new publisher. **Interstel** seemed interested, based on the critical success of *Dark Spyre,* and optioned *Dusk of the Gods.* When Interstel eventually faced the financial difficulty that took them under, Event Horizon's crew began to wonder if they were ever going to have a publisher for longer than a one game relationship.

SSI On The Horizon

Enter **Strategic Simulations, Inc.!** *The Summoning* was almost complete and, like a refrain in a folk song, Jim was hunting for a new publisher to take Interstel's place. The deal with SSI proved valuable in numerous ways. First of all, they didn't have to seek a new publisher after *The Summoning* was released. Not only did SSI pick up the option on *Veil of Darkness,* they also exposed the crew to new technology with no ramp-up time or additional costs. Then, they hired Event Horizon to do the programming on *Dungeon Hack* (a *Dungeons & Dragons* game with random dungeons) and *Ravenloft* (a popular *AD&D* series built on vampire lore). Both of the latter games incorporate first-person perspective and required new programming techniques.

So, Event Horizon began to expand, gradually, via the additional business generated from SSI.

SSI and Event Horizon were a good fit, philosophically, too. SSI considers itself to be a gamers' company, as well. SSI staffers play lots of games, but even the executives engage in monumental after-hours games of American Civil War battles using miniature figures. At Event Horizon, the big thing is *Illuminati,* the diabolical card game from **Steve Jackson Games.** Employees grumble that Namestka wins all the time, but a casual observer gets the feeling that he gets "stabbed" his share of the time. According to Namestka, "Everyone here plays games because we *make* games. We don't just boot products out the door. We *play* them."



Cutthroat rounds of *Illuminati* are a popular after-hours pastime for the avid gamers of DreamForge.

Unfortunately, just as the small software developer was building a solid reputation among role-players, they discovered that their corporate name, Event Horizon, was being confused with a West Coast corporation that makes adult software. So, at a time when the company had near-misses at awards with *Veil of Darkness* and *The Summoning,* they decided to change their name. DreamForge Intertainment is the new moniker. As Namestka explained, "We used the word 'dream' because that's what we make, 'forge' because it implies craftsmanship, and 'Intertainment' with an 'I' because it represents the next big thing—interactive entertainment." If what I've seen of *Dungeon Hack* and *Ravenloft* are any indication, DreamForge Intertainment is definitely going to play an integral role in that next big thing.

What You See

Papyrus and DreamForge are two illustrations of what many casual gamers often miss. By paying attention to the publisher of the games rather than looking at the designers and developers, the casual gamer sometimes misses seeing the companies who are on the rise. We hope this portrait of two potential "overnight successes" will help gamers look just a little closer at those credits in the manual and the fine print on the game boxes. It is definitely exciting to watch software companies forging their own future. **CGW**

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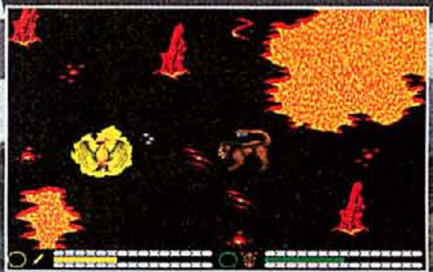
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WHERE ONLY GHOULS FEAR TO TREAD

Bram Stoker's *Dracula* Stakes A Claim In 3D Action

by Jeff James

When it comes to figures of gothic horror, none casts a longer shadow than Dracula. Bram Stoker's 19th Century novel of a restless, immortal creature fond of the taste of human blood has been imitated and retold in countless novels and films, most notably by Bela Lugosi's 1931 *Dracula* film and Anne Rice's series of vampire books. With *Bram Stoker's Dracula* (based on the 1992 F.F. Coppola film of the same name), **Psygnosis** leads gamers on a familiar—leaning toward trite—journey through a land of gothic, blood-sucking horror.



In *Dracula*, your task is to guide Jonathan Harker towards his ultimate goal: the destruction of The Prince Of Darkness. To do so, you must shepherd young Harker through three game stages. The first takes place in the cemetery outside of and beneath Dracula's castle. The next consists of six map levels in Carfax Abbey, while the third and final stage takes Harker to the castle itself.

A blurb on the back of the game's box shouts that *Dracula* features "a totally incredible and unique character control system," but it is neither incredible nor unique. *Dracula* uses the same dungeon-crawling playing perspective as **Id Software**'s *Wolfenstein 3D* and **Origin**'s *Ultima Underworld*, though not as well. Holding down the left mouse button and moving the cross hair mouse pointer about the screen will move Harker in that direction. Moving the mouse toward the top of the screen increases the character's forward speed, while moving it towards the bottom of the screen causes the character to slow down or walk backwards. Up to seven items—primarily food and keys—can be picked up and placed in the inventory slot at the bottom of the screen. Harker's lower arm protrudes upwards from the bottom of the screen, clutching the currently selected weapon. Pressing the left mouse button will cause Harker to fire the gun or jab with the knife, depending upon which weapon is currently selected.

Harker has only three weapons at his disposal: a knife, a pistol (loaded with up to 99 silver bullets), and a collection of holy wafers. The knife and pistol (toggled by pressing the space bar) are used to go toe to toe with the mostly deceased and rotting malcontents of the *Dracula* game world. Most of the enemies your character encounters are a motley bunch of easily dispatched corpses and skeletons. Tougher foes will occasionally be encountered, such as the Werewolf (which usually takes four shots to kill) and a vicious batch of female vampires that Dracula keeps in his castle. The holy wafers are used to purify monster-generating coffins (resembling square pits of blood) found on each level. Once all the coffins in each stage are destroyed, the player faces Dracula in one of his three forms. Once the Count is defeated, you can advance to the next stage. When he has been defeated the third and final time at the end of the third stage, Harker's vampire-slaying duties have been fulfilled.

It appears that Psygnosis spent most of the their *Dracula* budget on acquiring the movie license, leaving little for game development and packaging. The game play is uninspired and repetitious, and while the graphics have an occasional neat touch, they seem as if they were knocked off in a rush. Driving home the slipshod impression is a tiny manual that lacks page numbers, with a section entitled "Playing Tips" offering nothing but instructions on how to load, save and quit the game.

Psygnosis states that *Dracula* requires a 20MHz 286 machine to operate, but for fluid screen scrolling, a fast 386 or 486 is ideal. Dracula's memory and hard drive requirements are modest, requiring only one megabyte of RAM and a little under two megs of hard disk space. Although Dracula does require a Microsoft-compatible mouse to function properly, running the game with version 9.0 of Microsoft's mouse driver causes problems with firing weapons and selecting objects. Upgrading to the 9.01 version of the mouse driver will correct the problem.

Game music is gloomy and dramatic, well-suited for a trip through ancient buildings stocked with undead. The sound of Harker's tromping footfalls are well-done, although the sharp retort of his steps sound out of place in the grass-covered turf of the cemetery. Sound effects and music cannot be selectively toggled on or off while in the game—sound and music are either "Off" or "On," selected when the game is first loaded. Unfortunately, those sound settings aren't written to a configuration file. As is, the player must re-select the desired sound card at the start of every game.



Hard-up fast action fans and vampire-slaying aficionados might find *Dracula* to be a decent, albeit unambitious, game. Gamers looking for a tale that really delves into the vampire mythos should take a look at **SSI**'s *Veil Of Darkness* or **Viacom New Media**'s *Dracula Unleashed CD-ROM*. Less keenly interested gamers would be better off renting a campy Vampire movie, dimming the lights in the computer room, and letting their imaginations turn Nazi's into ghouls in *Wolfenstein 3D*. CGW

Bram Stoker's Dracula



TITLE:	Bram Stoker's Dracula
PRICE:	$59.95
SYSTEM:	IBM
REQUIREMENTS:	286-20MHz or better, 1MB RAM, VGA graphics, 2MB hard drive space, mouse
PROTECTION:	None
DESIGNERS:	Tag and Mike Simpson
PUBLISHER:	Psygnosis Cambridge, MA (617) 497-7794

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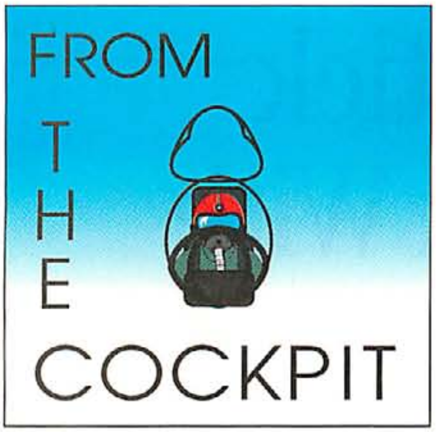


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The Friendly Skies Of *Flight Simulator 5*

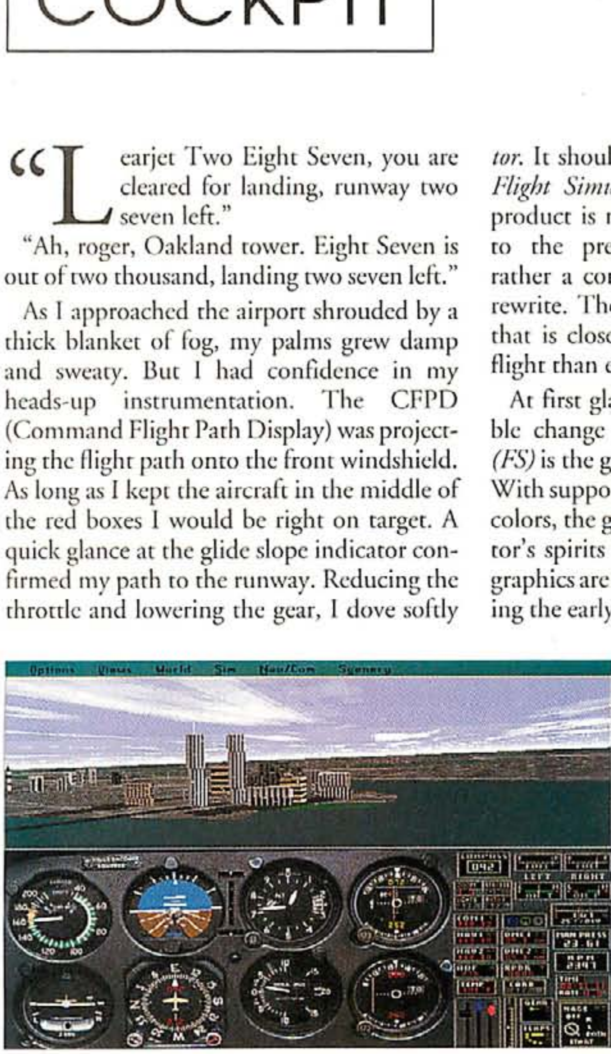
Something Special In The Air From Microsoft

by Timothy L. Trimble

"Learjet Two Eight Seven, you are cleared for landing, runway two seven left."

"Ah, roger, Oakland tower. Eight Seven is out of two thousand, landing two seven left."

As I approached the airport shrouded by a thick blanket of fog, my palms grew damp and sweaty. But I had confidence in my heads-up instrumentation. The CFPD (Command Flight Path Display) was projecting the flight path onto the front windshield. As long as I kept the aircraft in the middle of the red boxes I would be right on target. A quick glance at the glide slope indicator confirmed my path to the runway. Reducing the throttle and lowering the gear, I dove softly into the sea of fog. I noticed I was holding my breath as the fog cleared and revealed the runway directly ahead, with only 200 feet of altitude left! After a smooth touchdown, I kicked in the thrust reversers and quickly slowed the aircraft for a quiet taxi to the terminal under the gloomy skies of the Bay Area dusk.



Cleared For Taking Home

After a long, circling flight in the holding pattern of software development, *Flight Simulator 5* is finally a reality. The **Bruce Artwick Organization (BAO)** and **Microsoft** have come through with their promise to provide the next generation of *Flight Simulator*. It should be obvious to any *Flight Simulator* fans that this product is not an enhancement to the previous version, but rather a complete redesign and rewrite. The result is a product that is closer to simulating real flight than ever before.

At first glance, the most notable change to *Flight Simulator (FS)* is the graphic environment. With support for SVGA and 256 colors, the graphics will stir aviator's spirits like a prop frappes the air. The graphics are most impressive when flying during the early morning or early evening, when pink wispy clouds float across a dark blue sky. The external view of the aircraft shows the gradient light shading and smooth aerodynamic shapes that are almost photographic in detail. In fact, with the new Flight Photograph feature, a lot of impressive *Flight Simulator* photographs are starting to show up on CompuServe and GEnie, and other flight sim-related BBSs. (I'm currently using one as a backdrop for *Windows*.) The quality of the digitized instrument panels is so good that "real-world" pilots no longer cringe when sitting down in front of the computer.

Along with the graphics, the scenery has also undergone major reconstruction. With the new longitude and latitude coordinate system, the entire world is supported. To prove it, just zoom out all the way with the map view and you'll see a nice round picture of the earth! Detailed scenery is provided with the package for Chicago, New York, Los Angeles, San Francisco, Seattle, Paris and Munich. In addition to the new scenery areas, older areas have been expanded upon. For example, Reno has been added to the San Francisco area scenery.

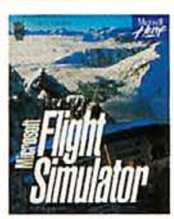


Some pilots were disappointed with the lack of scenery detail in earlier *FS* versions. *FS5* has a lot more than just the old solid green or brown ground to stare at. The scenery is now textured for fields, farms, trees, mountains and much more. And another type of scenery is now supported—digitized scenery. A small sample of this is provided at Meigs Field in Chicago. Separate add-on packages of New York and San Francisco digitized scenery are also available, which provide a greater level of realism to the experience.

Da Plane! Da Plane!

The flight characteristics of the aircraft have also been improved. The code for the flight dynamics is a lot more complex and yields a flying experience closer to the real thing. However, I still can't seem to get the Cessna to perform a power-on stall properly. All of

Microsoft Flight Simulator 5



TITLE:	Microsoft Flight Simulator 5
PRICE:	$64.95
SYSTEM:	IBM
REQUIREMENTS:	386 or better (486 recommended), 1MB RAM, SVGA/VGA/EGA graphics card, 14MB hard drive space, mouse; supports joystick and flight yoke
PROTECTION:	None
DESIGNER:	Bruce Artwick Organization
PUBLISHER:	Microsoft Redmond, WA (206) 882-8080

the aircraft have been rendered beautifully and have their own instrument panels appropriate to the aircraft. For good or bad, there'll be no more ILS approaches with the sailplane!



Depending on the realism levels, the aircraft can be a handful to operate. The Cessna is the most stable, and the Learjet is an enjoyable challenge. However, the Sopwith Camel, although pretty, can be a major chore for even an experienced simulator pilot. The sailplane is graceful, as always, and provides a welcome relief from the stresses of powered flight.

To assist with all of the flying, there are over 1,300 VORs and 1,000 NDBs available for navigation—even outside the detailed scenery areas. It is now possible to fly from New York to Chicago via the use of VORs instead of guessing the right direction and waiting for a distant VOR to come within range. Just about all of the VORs and NDBs for the U.S. are included. You won't find information about the location of these VORs in the documentation, but you can find them on any of the FAA (Federal Aviation Administration) approved flight sectional charts, which can be purchased at your local General Aviation airport or flying school.

Another major feature is the new weather generator. It now supports the creation of multiple weather patterns, each with its own cloud, wind, temperature and pressure settings. It's easy to create a situation with a nice clear sky over the departure point and a thick layer of overcast at the destination (and at low levels to simulate fog). You'll be able to see the weather change as you fly from one area into another.

Once you become proficient at flying the aircraft in numerous situations, you can record the flight as proof of your great accomplishments. The video recorder even supports slow motion for catching that last moment before the crash into the Eiffel Tower.

Changing Course

With the previous version of *Flight Simulator*, a lot of third-party products have appeared as a result of the *Aircraft and Scenery Designer*. Because of all the changes to the new program, the previous versions of the aircraft and scenery design software cannot create scenery objects and textures for *FS5*. (*FS5* will support scenery in *FS4* formats.) Bruce Artwick is currently working on a new *Aircraft & Scenery Designer* for *FS5*, and there has even been some discussion about scenery on CDs for the near future.

As with past releases of *Flight Simulator*, the product was a step ahead of the technology required to make it work smoothly. The same is the case with *FS5*. When all of the graphics and scenery settings are set to their maximum, a 486 computer running at 66MHz can seem like an old 286 computer. When *FS4* came out, we were all running 286s and we complained about the performance then, as well. But I'm probably not alone in my willingness to exchange the slight cost of performance for the realistic graphics. At least the product offers a wide range of settings for accommodating the preferences of the user.

In summary, *Flight Simulator 5* is another leading edge step in flight simulation technology for microcomputers. There are a few minor flaws in the flight dynamics and sensitivities, but BAO is currently working on fixes that should be ready by the time you read this. I continue to be excited about this product, even after playing and testing it for more than a year. I'm sure that you'll be just as impressed.



Once again, this is The Timinator, saying, "Strap in tightly and watch out for whiplash when you kick in the thrust reversers!" CGW

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Simple Simon

Scorpia Guides Gamers Through Activision's *Simon The Sorceror*

So here we are, just coming off the holidays highs, and it's time to settle down to the serious business of gaming. What better way to spend those cold winter nights than sweating over a hot game? Keeps you warm, engages the mind, and, if the game is tough enough, expands your vocabulary of expletives (heh). And make no mistake about it, playing the part of a kid wizard can be very frustrating at times.

Simon The Sorcerer is a British import, hauled over the Atlantic by **Activision**. This typically means it has a few quirks, and you have to approach it carefully. For instance, not all the puzzles are fair or logical. Perhaps this is the culture gap, or maybe British adventure designers have a cruel streak. Whichever, puzzle solutions will often come off the wall, out of woodworks, left field—wherever such odd-ball items are found. Another annoyance is trying to find things on the screen. I missed items more than once because the cursor didn't go over the precise spot necessary to discover an object. So when you play this one, remember to scan the entire screen slowly, all over, right to the very edges, or you're sure to overlook something.

You also have an auto-map of sorts. It shows major locations as you reach them during the game. Once an area is on the map, you can go there immediately by clicking on it. While it won't record every single place, the major locations are set up so you usually don't have to go more than a couple of screens to get where you want to be. And feel free to save as often as you want. The save files are a microscopic 3K each (wow!), so you should have room for plenty of save positions.

Finally, there's a wise owl, of sorts, in the woods. He provides a few clues to some of the puzzles. Chat with him every now and then. However, he only has about ten things to say, so after awhile, you'll be on your own.

So anyway, here's Simon, a typical Earth kid who gets pulled into another dimension to rescue Calypso the Wizard from the evil mage Sordid. Right there, Simon knows it isn't going to be a good day. It doesn't get any better when he visits the wizards at the local bar; they won't welcome him into their circle until he brings them a magic staff they've been looking for. For poor Simon, it's going to be just one thing after another.

The first item on the agenda is to wander around the village and become familiar with all the buildings and, of course, grab everything Simon can get his hot little hands on (sorry to say, nothing can be stolen from the Shoppe; items can only be bought there).



When that's been taken care of, it's time to haul out the graph paper and map the forest. This is where it gets really interesting, as Simon will meet all sorts of, umm, unusual beings during his jaunt through the woods.

This is also where things get a little difficult to talk about. Most of the puzzles require multi-step solutions, and some of them overlap. It isn't like, say, *Freddy Pharkas*, where the action is divided into neat little chapters. So I'm going to be a bit discursive here, jumping around to different points in the game, in no particular order, rather than try to give a straight, one path walkthrough of the game.

Right then! Let's talk about Dwarves. Simon wants to get into the Dwarven mine. It helps if he looks like a Dwarf, but that's no problem if he thinks sharp. The real trick is bribing the guard inside. What to use is obvious, but how to get it, that's another matter entirely.

This is one of the nasty puzzles, so I'm going to be a bit more forthcoming about it. If Simon stands in the bar and you run the cursor across the shelf behind the bartender, nothing shows up. But, when Simon asks for a drink, and the bartender rummages down below for ingredients, the left-hand keg suddenly "lights up" if the cursor touches it, and this is the only time that happens. Simon still can't grab it from there, but he can do something else while the bartender is distracted. And while you're at it, pay close attention to the (non-working) fruit machine in the corner.

Out in the woods is a Troll Bridge, but the Troll is on strike and won't let anyone pass (poor thing, you almost can't blame him). However, this is a mere whistle stop along the way to better things.

Next Simon might want to consider a certain tower in the woods. Memories of old fairy tales naturally come to mind, and probably the name "Rapunzel" rings a bell here. Of course, this being the world it is, what's waiting at the top may not be quite as expected. Keep the floorboards in mind for the future.

What a "repulser" is good for is not entirely clear. However, if you know anything about pigs and fungi, this may well open a door to some helpful items.

Further on, at the edge of the swamp, is the Swampling. Poor critter, no one comes to see him any more. Then again, since he insists on serving visitors a nauseating swamp mud stew, perhaps this is not surprising. I recommend no more than two helpings of this stuff.

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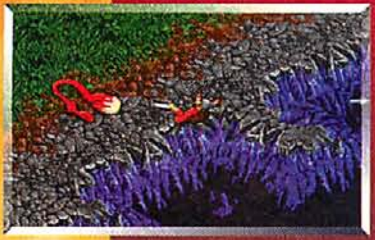
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The third is best saved for later, possibly as a specimen of some sort.

Moving right along, there's the woodcutter. He not so cleverly settled in an area where trees are magically protected, and he can't cut them down. Unless, that is, he has a milrith (anagram of mithril) axe. Of course Simon volunteers to help, and receives a metal detector to assist him. The thought of searching who knows where for the stuff might leave him cold, but possibly a wizard can show the way.



Unfortunately, finding the stuff isn't enough; it needs to be dug up. Shovels being in short supply, another method must be found. Here is where Tom Sawyer and whitewashing come to mind, for some reason or other.

Somewhere about is a dragon. A real, honest-to-gosh fire-breather...with a bad cold. Not something Simon wants to stand near for any length of time, even if he does have his eyes on the dragon hoard. Sorry Char...err, Simon, you can't reach the gold from here. There are other ways, though; try checking out the cave entrance *very* carefully. And when you get where you're going, well, the answer is attractive but illogical.

Simon's probably been wondering about those woodworm. Just a bit of mahogany, that's all they want. So who's most likely to have wood, eh? Right! Haven't seen any lying around though, have you? Well, cool off those overheated brain cells and move.

In his wanderings, Simon may have come across Golum (or then again, perhaps not; check out the waterfall area from both sides). It's a sad party that has no munchies, but possibly Simon can provide a little something.

I see I haven't mentioned the goblins yet. Nasty types, those. After getting inside their fortress (delivery!), Simon has to rescue the Druid. The means for this are at hand (incidentally, there is no way past the guard at the stairs), but it's essential to talk to the Druid a few times first.

Around about now, Simon should be thinking of that staff (remember the magic staff?). This is where the woodworm are really helpful (bet you thought it was the hammer, huh? So did I, but that's not it); so is a ladder, and a certain loose bandage.

Well now, what with returning the staff, and paying the exorbitant initiation fee, Simon has arrived! Yes, a real wizard at last, and finally able to face up to the wicked old witch (well, if he also helped out the talking tree to learn the magic words, that is).

This one is tricky. The words change Simon into different critters, namely a lion, a mongoose, a snake and a mouse. In the wizard duel, Simon has to choose a shape (speak the word) that will "defeat" the form chosen by the witch. In other words, it's a variation on "scissors-rock-paper". Witchy-poo chooses her forms randomly, and since both change at the same time, a certain amount of luck is needed to win here. Also, the witch is a poor loser, and Simon must make one final transformation to get out.

Okay, let's talk about the end game. Getting across the chasm and into the castle shouldn't be a problem. However, the new perspective (so to speak) causes Simon to drop all his inventory. Not to worry, though; none of it is needed, and everything Simon does need will be found along the way.

Getting across the "pond" is the first order of business, and that's not difficult, since there's so little to work with (provided, of course, that you find everything that has to be found here). The frog is a bit more difficult, but examining the water, and being tough, will get Simon past the obstacle.



All right, Simon is himself again, and naturally checks the garden carefully before going inside to deal with the chest-monster. That's the only dangerous thing here. The demons on the top level, being somewhat miffed at the moment, won't bother him at all. Good thing, too, since there's an important book up here. In fact, it's Sordid's spell book, containing an incantation to send demons back where they belong. How convenient!

Most of the rest is pretty simple, for a change. Picking up the spell "ingredients" presents few problems. Using them, however, is another matter. Simon might want to have an extended talk with the demons.

So here he is at the Fiery Pits of Rondor, now a tourist attraction with no tourists in sight, with empty pockets. Hmmmm. Wonder what that bell on the wall might do? There must be a way to find out. Scan the ground carefully here, and don't overlook those brochures.

Yeah, onward to the pits! And look who's there, trying to restart the fires that our boy just snuffed. Yep, that old evil wizard, Sordid himself! He's too busy to notice Simon, so now's the time to give Sordid a taste of his own medicine. Gee, that was easy.

But those pits still have to be lit up again, and magic doesn't seem to be the answer (and Simon has none, anyway). Let's hope Simon didn't miss something back at the souvenir stand.



Good! The pits are fiery again, and with the wand destroyed, all the petrified people are restored. ALL of them. Oooops, that includes Sordid, too. Hmmm, I guess it *was* just a bit too easy. Fear not, Simon is tougher than he looks! After the first go-around with Sordid, our hero should be able to, ahem, wax him more permanently the second time.

Whew! Once again, the world has been saved so another evil megalomaniac can try taking it over in the future. Simon goes back home, happy to be back where he belongs. Wait, what's that giant hand that just came out of nowhere? Uh oh, looks like Simon isn't going to be staying home for awhile yet....

Well, I see by the old invisible clock on the wall, it's that time again. In the meantime, if you need help with an adventure game, you can reach me in the following ways:

On Delphi: Stop by the GameSIG (under the Groups & Clubs menu).

On GEnie: Visit the Games RoundTable (type: Scorpia to reach the Games RT).

By US Mail (enclose a self-addressed, stamped envelope if you live in the US):

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Until next time, happy adventuring! CGW



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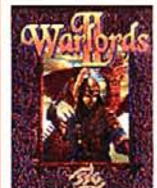
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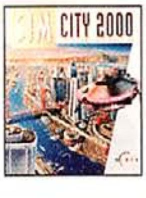
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KING'S TABLE

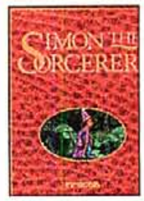


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Publisher: Spirit of Discovery
Part #30343

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Letters from Paradise











Sound Philosophy

I would like to start by saying that I read every issue of *CGW* that I get from cover to cover, and I love every page of it. That is, I did until I read the article in the October issue on sound cards. You made the article very, very hard to rip apart (mainly by having let the reader know that the writer was competent and what they were judging each card in), but I still felt that the review you gave on the Gravis UltraSound was unfair. I know that the Sound Blaster emulation kinda' bites and that not many game companies support it (at least now, many have promised that they would). I feel that you failed to mention that it was also the programmers' card of choice (Gravis and Forte have released a great deal of code, text, and libraries for a programmer), that it is the underground's card of choice (Future Crew and Renaissance swear by it, not to mention code a huge amount of demos and a few games for it), and that it has a very large worldwide following (just look around on Internet). The card itself can be anything you want it for, they purposely leave the standard model a basic unit and sell the add-ons separate to keep the price down. Given a few more months and a little support from big developers I think GUS will take off. I could go on and on in support of this card, but I'll keep it short to increase the chances of this getting printed so I can get my point to many others. Just to keep the record straight, your magazine is still my favorite.

David "The Gonz" Demski
Parkton, MD

I am writing to express my disappointment at the lack of vision in the October review of the Gravis UltraSound (GUS). While I understand that the sound card survey was geared toward gamers, placing emphasis on compatibility and ease of use, more effort should have been made to point out the uniqueness of the UltraSound instead of letting it drown in the sea of Sound Blaster work-alikes and faceless GM synths.

I cringe as I see more and more companies embrace the GM synth and DAC paradigm. If this trend continues, PC audio will consist of 128 instruments and single-file digital sound effects (overlapping digital sound effects will require CPU intensive mixing in the software). The RAM, hardware mixing and affordability of the GUS offers an exciting alternative for the masses.

The GUS is one of the rare wavetable soundcards that offers RAM for storing samples. It is also the only one that I know of that allows rapid read and write to the RAM via DMA (up to 630 kB/s). This means that the GUS invites the use of custom instruments, unlike most other affordable wavetable cards which are stuck with the GM instrument set in ROM. GM is ill-suited for certain types of music such as dance, techno and ethnic, all of which can and should be found in games. The use of custom instruments gives gamers much more variety.

The hardware mixing of the GUS, coupled with its RAM, make it one of the most versatile sound cards that I know of. While the GM synth and DAC architecture of other sound cards divide audio into 24 voices for music and one stereo channel for digital sound effects, the GUS offers up to 32 digital sample playback voices, any of which can be used for sound effects or music. So, in a game, we can have 24 voices to carry the music and up to 8 voices to handle the sound effects (or more, if we reduce the number of voices for the music). Thus, instead of hearing only one digital sound effect at a time, which most current games are limited to due to the single-DAC nature of most sound cards, the GUS allows several digital sound effects to overlap. Furthermore, each sound effect can be panned between right and left, pitch-shifted, looped, and enveloped *in hardware* to add life to the acoustics. And having RAM also allows samples to be downloaded to the GUS to free up main memory.

On the other hand, playing multiple overlapping sound effects on GM & DAC sound cards requires that the CPU mix the multiple digital sounds into one sample stream, a task which can be very CPU intensive, depending on the sampling rate. In the few games that mix multiple sounds in software, the sampling rate is kept very low to keep the CPU load down, resulting in poor sound quality.

But, despite its enormous potential, perhaps the best thing about the GUS is that it provides all this at a price that is mass affordable. Even at $130, the GUS has the best sound quality of all the affordable wavetable sound cards currently available. While other sound cards in its class are stuck with only 512 K, 1 MB or sometimes 2 MB of instrument samples, the GUS has over 5 MB of instruments! The 16-bit interpolating sound processor on the card isn't too shabby either.

However, all the possibilities that the GUS offers will amount to nothing if it doesn't get supported on a wide scale in its native mode. If your magazine truly champions the end user, not the game companies, you should have taken more care to point out how the GUS can revolutionize PC audio instead of dismissing it because it doesn't fit neatly into


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Actual IBM screen shots

the GM synth and DAC mold cast by the game makers to ease their development tasks.

Phat Tran
University of Waterloo

We received several letters taking us to task about our perfunctory dismissal of the Gravis UltraSound card. Most were kind, but stern, in their remarks concerning the superiority of their sound card of choice. Almost all admitted that the Sound Blaster emulation was sub-standard, but they insisted that the GUS would provide the standard of the future. What many of our correspondents failed to consider is that we were not addressing our survey to multimedia developers and power programmers. The survey was intended to give casual gamers the information necessary to have a sound card that would enhance their gaming experience without plaguing them with the frustrations of incompatibility.

The de facto standard in the gaming world is Sound Blaster compatibility. Many of the game publishers have decided to support only those sound cards which are supported by the Miles drivers. They are tired of every hardware manufacturer coming to them with the so-called standard of the future and presenting them with new incompatibility problems which end up costing customer support time on the back end of the product release. Such problems frustrate both the consumer and the publisher who must pay for the extra support necessary to help casual gamers configure their systems.

Frankly, the entire debate has a familiar ring. Atari 8-bit owners used to write us about how superior their machines were with regard to the Apple II that received most of our attention. More software was being written for the Apple at that time, so it received more attention. Atari ST owners would tell us how superior their machines were to the Amiga and MS-DOS machines. They would cite technical point after technical point. Yet, more software was being published for the latter two platforms, so we were accused of bias. Now, Amiga owners call us MS-DOS Gaming World. Yet, we have to advise readers who want a machine that will play most of the games to purchase high-end MS-DOS machines. In the same manner, if we want to advise a gamer how to get the most out of his/her money, we believe we have to recommend purchasing the sound card or compatible that is supported by the most games. Right now, that is the Sound Blaster and its work-alikes. It would have been unfair to have recommended anything else. We certainly could have spent more time on the virtues of the GUS, but we would still have printed essentially the same recommendation.

The 5th Wave — By Rich Tennant



"I SAID I WANTED A NEW MONITOR FOR MY BIRTHDAY! MONITOR! MONITOR!"

Red Gibes In Warning

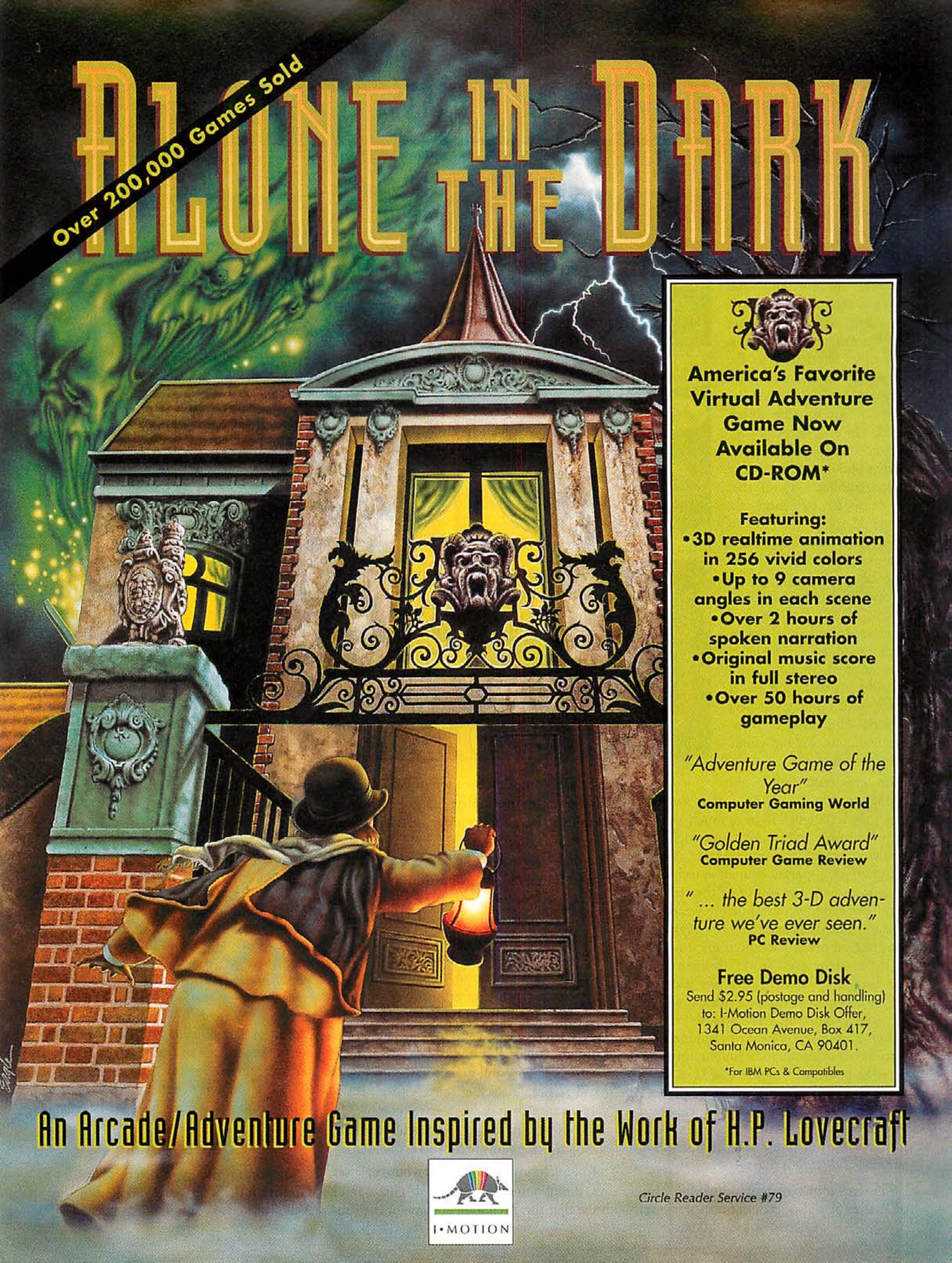
I would like to take this opportunity to add to Terry Lee Coleman's review of my game, *Red Sky at Morning.*

First, I need to correct a factual error. It is a minor error which I would normally overlook, except that it occurs in the very first sentence of the review. The sentence states, "Back in the Dark Ages of Wargaming, Steve Newberg and Bill Nichols were makers of board wargames." Please note that my first wargame design was *Grey Seas, Grey Skies,* for the Apple II computer. I have eight more computer wargames to my credit since then, but no board wargames. (I will let pass without comment the reviewer's presumption that wargames created B.C.—Before Computers—were created during the Dark Ages.)

Another piece of SimCan trivia is that *Red Sky* is not, in fact, the first SimCan computer game to offer graphics. The IBM and Atari versions of *Grey Seas, Grey Skies* include a graphic, radar-screen display during air- and missile-strike combat.

I find it ironic that, after a decade of reviewers' harangues over SimCan's text-only format, the *Red Sky* reviewer writes "SimCan would have done just as well without the graphics." This appears to reflect a common mindset that, to be acceptable, computer games need to exploit the latest in high-resolution graphics/stereo sound/full-motion video/ad infinitum. In my opinion, the industry would do well to examine its preferences for style over substance. A high "glitz factor" means longer development times, larger hard drive space requirements, and (bottom line) higher prices.

In response to the reviewer's comments about *Red Sky*'s graphics, a 16 color VGA format was selected because it provides sufficient screen resolution (640 by 480 pixels) without going to SVGA (many gamers still "only" have VGA machines). As *Red Sky*'s situation maps consist exclusively of land areas (green), ocean (light blue) and ice (white), and the players' forces are either red or dark blue, there was no need to adopt a larger color palette. The reviewer's statement that "...the maps are low resolution, with the ships appearing as blobs of primary colors" is just plain wrong. The ship icons are similar in size to those of other naval wargames (e.g., *Harpoon*), and are clearly discernable even in the postage-size screen shot printed with the review. The point is that *Red Sky*'s graphics get the job done, and beat SimCan's previous format (grease pencils and laminated maps) by a long shot.



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After reading the review, I have the impression that the writer has focused more on questions of "style" than on the actual "substance" of *Red Sky*. The result is that the review does not adequately describe how *Red Sky* differs from other modern naval wargames. In fact, certain of the reviewer's comments seriously misrepresent *Red Sky's* design objective. Specifically, statements that "What *Red Sky* could offer is a simpler alternative to the Harpoon series," and "*Red Sky* wants so badly to be Harpoon...." are squarely in left field. The only similarity between *Red Sky* and Harpoon is that both concern modern naval combat. From that point on, the two games diverge. Harpoon is a tactical-level game that allows the player to fight a limited number of naval engagements over a simulated timescale of a few hours. *Red Sky* is a global, strategic-level game encompassing an entire naval war over a timeframe of months. As such, the player must focus on issues of fleet logistics and resource management, not on individual ship/aircraft tactics.



An important point, not brought out in the review, is that *Red Sky* at Morning is designed to be as much a simulation as a game, and (to my knowledge) is the first commercial wargame to make extensive use of military operations analysis techniques. This is perhaps the source of the reviewer's misunderstanding over nuclear weapons in *Red Sky*. The statement that "*Red Sky* assumes that tactical nuclear weapons are a necessity in the modern naval world" is incorrect. At the beginning of each *Red Sky* game, the player may choose whether nuclear weapons are to be used or not. The "No Use/Free Use" switch enables the player to examine how a nuclear war at sea might be fought, unencumbered by political restraints. *Red Sky* does not, however, simulate the likely consequence of such a war (i.e., global thermonuclear war). Players can easily add this feature to the game if they wish (just douse your computer with gasoline and strike a match).

The operations analysis/simulation aspect of *Red Sky* may also account for the reviewer's apparent confusion over fog-of-war. *Red Sky* does allow for incomplete sighting reports, as in other games. But the program also provides an extensive set of reports under the "Staff Analysis" function. These reports, which have the fog-of-war stripped away, include tables and graphic plots of force levels, unit losses, killer-victim scoreboards, and others. The availability of this historical data "at the touch of a key" does not, however, mean that the player is free to do anything he may wish. The fog-of-war still limits the player's options in the sense that enemy forces must be found before they can be engaged. To paraphrase Captain Wayne P. Hughes (author of Fleet Tactics - Theory and Practice): the maxim of naval tactics, "Attack effectively first", is the very essence of success in naval combat. In *Red Sky*, as in reality, successful search is always the prerequisite for successful attack.

In conclusion, I regret that your reviewer was disappointed by the lack of "glitz", and I hope that this brief look at some of the substance behind *Red Sky at Morning* will be helpful to your readers.

Bill Nichols
Designer, Red Sky at Morning

Knowing that SimCan began in the days of boardgame design and that you have been designing computer games for SimCan for several years, we sloppily allowed the error regarding boardgame design to slide by. We hope you are not offended by being called a boardgame designer. Some of our best friends are boardgame designers. Seriously, we regret the inaccuracy and appreciate your supplementary design considerations. As for the graphics issue, we only played the Apple II version of Grey Seas, Grey Skies *and had forgotten that the conversions had attempted such a refinement.*

Rated X-Wing

Something I've wondered about every month on the Top 100 Games List: Why is *X-Wing* listed as a simulation game and *Wing*

Commander II as an action game? Aren't they, in reality, pretty much the same game?

Rick Taylor
Denver, CO

All right. You've got us. Larry Holland sends all of his royalty checks to Chris Roberts.

Seriously, they are not the same game. Wing Commander *is a shoot-'em-up with no pretense of a physics model underlying it. It is very much an action game with an emphasis on reflexes. Larry Holland tried to build what he considered a challenging flight model for* X-Wing, *with the emphasis on flying a vehicle as opposed to merely zipping through space and blasting away. We realize that the subject matter is similar for both games and that much of the action seems the same, but we made a judgment call on the basis of the perceived design philosophy. We may have split the hair too finely on the call, but we'll have to live with that one.*

Sonic Bust

I am very upset about the inclusion of a Sega video game review in this magazine. If I am correct, Ziff-Davis already has at least one magazine devoted to video games, and this is the only quality games [publication] devoted only to computers. If video game coverage continues in this publication, I will cancel my subscription. Thank you,

V. Frugé
Fredericksburg, TX

We regret to inform you that you are incorrect about Ziff-Davis owning a video game magazine. There is no such animal and our parent company has not put any pressure on us to cover video games. In the past, we have occasionally reviewed cartridge games which we believed were of interest to our readers. In particular, we have a solid core of sports gamers who read our magazine and don't care on which platform their sports games appear, so long as the game play is to their satisfaction. We reviewed Koei's PTO *because we felt that it was enough of a wargame to appeal to our wargame readership. We do not expect to review every Tom, Dick or Sonic that comes along, but we do expect to continue to review games that we believe appeal to our readers, regardless of platform.*

"Paik" And Musket

Your magazine is tremendous. After several years with a IIGS, I was overwhelmed by the amount of games for the IBM, but your poll made it easy to make decisions. I do have some questions, though. What is a game engine? Also, are there any decent civil war games out? Have you done ratings of pre-1900 wargames in your magazine like the one you did for 1900-50?

Andrew Krug
Dunkirk, MD

A game engine is the software structure that drives the computer game. It is the set of algorithms into which the data is placed to make things happen on the screen. For example, the "Gold Box" game engine that drove so many SSI CRPGs is available as Unlimited Adventures. *You still have to place maps, monsters, NPCs, treasure and the like into data files before you have an adventure, but you don't have to redesign the game engine (movement, combat, healing, discovery routines, etc.) to create a new game. In a simulation, there are basic physical laws built into the model for the game engine, and data files on vehicles and maps are read into the engine in order for the game to provide races, dogfights, etc.*

We offered a paiktography of pre-20th century wargames in CGW *#107. That should help you in your search for computer games based on the American Civil War, as well might this issue's review of* Ed Grabowski's The Blue and The Gray *from Impressions and Swfte's* Gettysburg.

CGW



Circle Reader Service #31

BEST OF THE REST

The Shiny New Face Of Shareware

by Chuck Miller

You know that shareware has become more than bathtub gin when a profusion of new titles start to appear on CD-ROM. Since many of our readers plan to purchase a CD-ROM drive soon, the time is right to take a closer look at this shiny new face of shareware. This month we'll look at four CD-ROMs that pack hundreds, some thousands, of shareware and freeware programs onto their 600+ megabytes of storage capacity. Of course, the big question is which discs offer true shareware gold—the newest and hottest games—and which are simply collections of "shovelware," old and/or weak programs shoveled onto a CD to turn a quick buck.

As we savvy consumers know, higher cost or fancier packaging does not necessarily mean greater value. In fact, the greatest value of the shareware collections looked at here happens to be the least expensive. Also, I've found that, while none of these titles are completely worthless collections of out-of-date junk, there is definitely a difference in value between them. Basically, this difference is the assortment of programs offered and the ease with which these programs can be sorted and accessed.

Keep in mind that while these collections are available as retail products, the cost is for the packaged CD-ROMs themselves—not the shareware included on them. The buyer of these discs is still responsible for registering the games played with their respective authors.

All Is Not Necessarily Fun & Games

First in our list of CD-ROM shareware compilations is *Dr. Games* ($29.95), an MS-DOS, BBS-ready collection from **Aces Research, Inc.** *Dr. Games* was pressed in June 1993 and offers a fair though limited selection of titles and average ease of use. Of all the discs considered here, it includes the fewest games, which can be counted in the hundreds. One advantage to this limited assortment is that most titles are provided in unarchived (uncompressed) form and are playable directly from the CD-ROM. Though the total number of titles in each category is not extensive, there is a good representation of games from each genre, including adventure, arcade, card games, chess, flight sims, kids, puzzle, simulations, sports, strategy, war and games for *Windows.*

The user interface is not the most intuitive or easiest to use of the titles reviewed here; it performs basic chores satisfactorily, at best. Access is provided to each game directory and each program, allowing you to play most games from the CD or copy them to a default directory on your hard drive. Unfortunately,



Shareware publishers hope game compilations on CD will get a bigger byte of the market.

it is not possible through the provided user interface or from the DOS prompt to determine the age of each program, as the files display the date the disc was compiled rather than their original creation date. Though many games in this collection will provide hours of fun, it appears that, in general, they are a bit dated.

Dr. Fun Pak ($35.95), also from Aces Research, Inc., differs from the previous offering in that it provides a more current and distinctive collection of games. This "Gold Collection" included some top-notch games, some which have been featured in past issues of *CGW.* In addition to *Wolfenstein 3D* (#98), *Last Half of Darkness* (#101), *Scorched Earth* (#110), *Ken's Labyrinth* (#106) and *Galactix* (#101), the disc has a healthy complement of chess, pinball, poker, *Star Trek, Star Wars* and Virtual 3-D games.

Though *Dr. Fun Pak* offers a selection of higher-rated shareware, it still suffers some of the same weaknesses as *Dr. Games*—a limited selection of titles and average ease of use. While a slightly better value than its sibling, *Dr. Fun Pak* (pressed in September, 1993) is still a bit pricy compared to the other titles listed below.

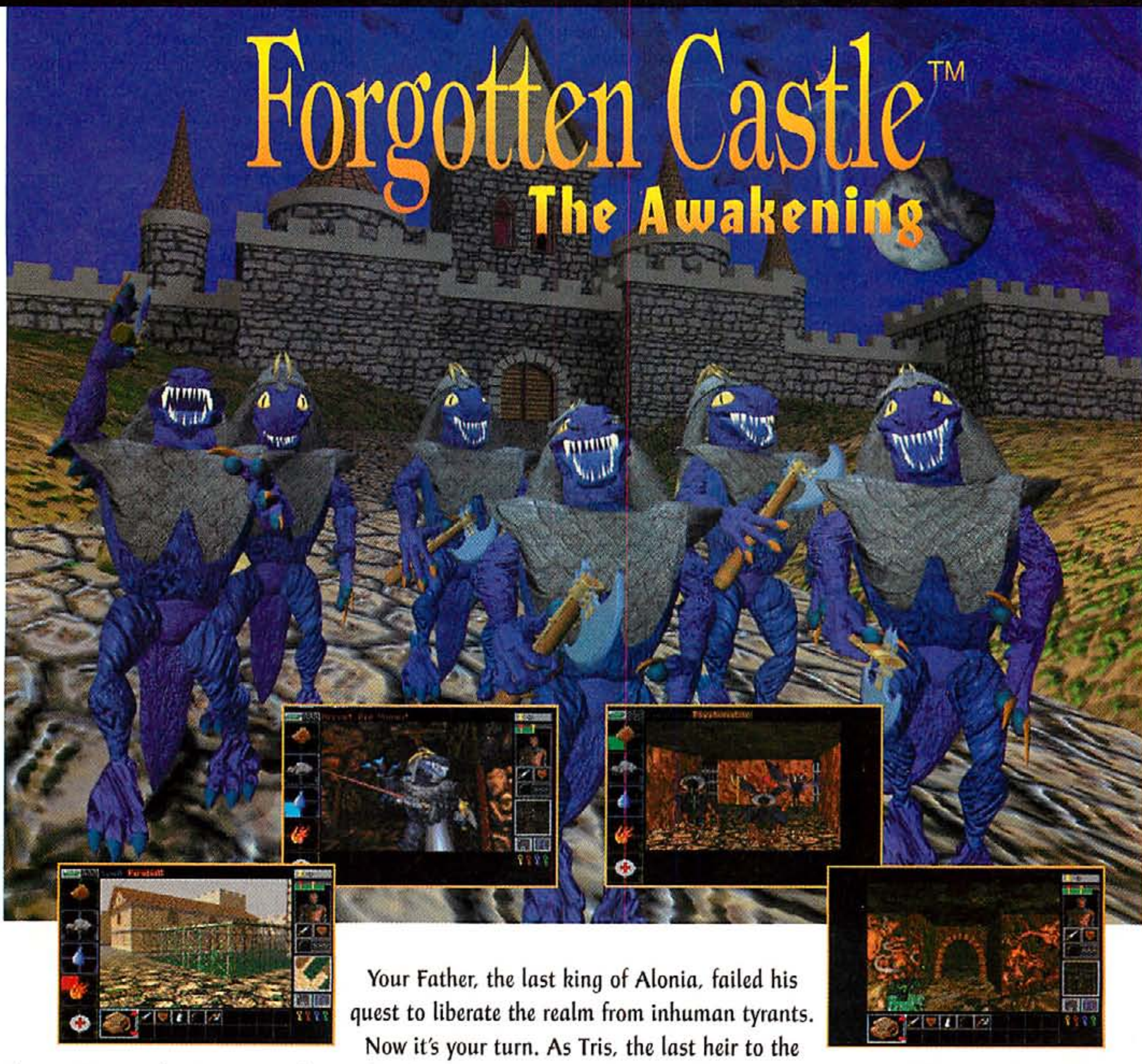
Both *Dr. Games* and *Dr. Fun Pak* are available directly from Aces Research, Inc., 4480-C Enterprise Street, Fremont CA 94538, (510) 683-8855. Please include the proper amount (indicated above), plus $5 S&H per order and any applicable sales tax.

Grab A Gigabyte Of Games

Giga Games from **Walnut Creek CDROM** ($39.95) offers gamers an enormous mix of serious and fun shareware with its thousands of programs for MS-DOS and *Windows.* Within its one gigabyte of data, you can find 1000 *D&D* files, 375 educational programs for children young and old, game editors, a smattering of graphic and text adventures, puzzles, trivia games, sports titles, simulations, arcade games, cheat and hint files, plus numerous graphic and sound files, animations and demos. This compilation delivers a huge hunk of data for the buck.

Published in August 1993, *Giga Games* offers a broad selection of games and above average ease of use. The CD interface allows you to select, copy and decompress files with ease. Programs are quickly located by directory and name with the provided search engine. File creation dates are also displayed, allowing one to identify at a glance a file's age. In all, this collection is a vast improvement over the above titles in user-friendliness and

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sheer volume. In addition, many recent games are included on it making *Giga Games* one of the fresher fish in the pond.

For ordering information, contact: Walnut Creek CDROM, 4041 Pike Lane, Suite D-659, Concord CA 94520, (800) 786-9907. For $39.95 plus $5 S&H, you can own a very comprehensive collection of shareware games.

Many Megs Of Shareware Mirth

Mega Games 1 ($29), the first in a series of entertainment CDs from **Profit Press**, is my personal favorite of these four compilations. While the packaging is unimpressive, the interface is the easiest and most comprehensive for shareware I have yet seen, and the selection of included programs is very good. This title, compiled in September 1993, is an excellent addition for those owning a CD-ROM drive. *Mega Games 1* is also the best dollar value around in shareware entertainment, featuring several thousands of files.

All game categories are represented, including special directories dedicated to games from **Apogee Software**, **Epic MegaGames** and **Software Creations**. It also includes all the games mentioned above plus many more from these top shareware developers. Though the collection of RPGs is a bit weak, *Mega Games 1* offers the most select and current body of shareware games I have located to date. In addition, there is also a good representation of graphic images, demos, electronic magazines (*Game Bytes,* for one) and sound files on disc.

The special MegaSearch retrieval program makes locating, copying and decompressing files a snap. It even allows the user to create new destination directories from within the program as needed—very handy! For those of you that run your own BBSs, a companion program, MegaDoor, makes access of this collection on your BBSs a simple matter. BBS index files and a "Remote User" mouse-friendly, menued interface are included. Viewers contained on disc make displaying images, running .FLI animations, and playing .MOD, .ROL, .WAV and .VOC files a simple matter.

Clearly the finest CD of those represented here, *Mega Games 1* is available for a special dealer-direct price of $29 (SRP is $79), plus $6 S&H. A free demo CD of miscellaneous programs, including benchmark and test utilities, is also available for the asking. To order this excellent title, contact: Profit Press, 824 E. Fort Lowell Road, Tucson AZ 85719, (800) 843-7990.

This survey only represents some of the many titles available. (At a recent local computer show in Anaheim, I discovered another half dozen titles—mostly of questionable value.) Though only four titles were selected for this survey, I will keep my ever-roving reporter's eye on the lookout for new CD shareware collections.

That Sinking Feeling

Not to leave our readers without an actual game review this month, I want to highlight a super little Battleship clone that I recently spotted through my periscope, *Destroyer for Windows* from **Timberline Software**. Standing ready at Version 2.0, this classic game of naval battle by Don E. Krafcheck and Stephen B. Kinsch offers the desktop admiral an historically based and lively animated game of hide and seek. According to the authors, historical integrity has been maintained in all the ships and aircraft represented. A Pacific Ocean view re-enacts the naval war between American and Japanese forces, while an Atlantic Ocean view re-enacts the conflict between British and German forces.



Destroyer for Windows

Several features set *Destroyer* apart from other *Battleship* rivals: the animated graphics and audible enhancements, and the game options, especially support for playing in salvo mode. In addition to the standard top-down grid view, a unique side view of the naval war zone is provided depicting your opponent's ships, but not their placement. Upon each shot taken, shell fire is depicted on screen either hitting its mark or plunging into the ocean. When a hit is registered, the ship bursts into flames at the appropriate location. Debilitating damage results in a sunken vessel. Accompanying these animations are the appropriate sounds of planes, shell fire, explosions and even digitized commentary from ship personnel (provided one has a sound board and the registered version of *Destroyer,* required for sound effects).

Game options offer the standard choices of individual or automatic ship placement; multiple skill levels; and adjustments for game mode, first shot, game speed and sound delay. The most significant option is that of selectable game modes. Standard mode offers the usual single shot per turn; salvo mode goes one step further, allowing as many shots per turn as the player has ships remaining. Thus, three ships afloat will allow three shots on that turn. Adjustable game speed and shell adjustment also help make fine-tuning game play an easy matter.

Stated in very simple terms, *Destroyer for Windows* is a shareware winner. Some improvements are in order such as enhanced 256-color graphics (images from actual photos would be great). The current visuals are good, just a little on the bland side. Also, the color for "misses" (white on a blue, gray and white grid) can be hard to make out. However, there is little else to complain about in this game. Modem and network support are planned for future release—just the thing to add some life to game play and allow for interoffice competitions. Also planned is a new view depicting the Spanish Armada in a high-seas, 15th century battle for European naval supremacy. Hats off, mates! This *Windows* diversion comes with the highest of recommendations.

Destroyer for Windows is available from Timberline Software, 12558 W. Aqueduct Drive, Littleton CO 80127-6225, (303) 932-7084. Registration is $20.

Let's Get Gaming

Games reviewed in this column are available through numerous distributors of shareware and public domain software, as well as on many national and private on-line services. If you do not have access to these services, you can usually write or call the game developer for an evaluation copy. And remember, if you find a shareware program enjoyable, please register it with the author. Until next time, great gaming!

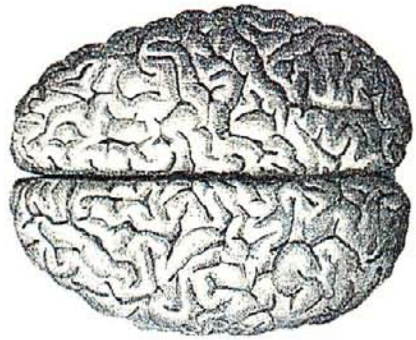
Send Us Your Best

If you have authored a shareware or public domain game for MS-DOS compatible, Macintosh or Amiga computers and would like to have it considered for review in this column, please send two complete copies (on 3.5" disks) with documentation and a cover letter to:

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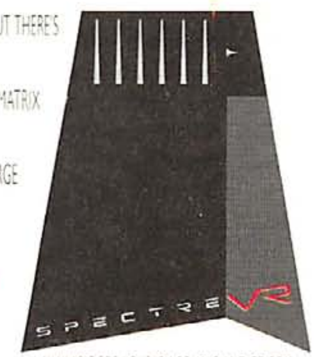


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The Need For CD Speed



Will Caching Software Accelerate The Lives Of CD-ROM Owners?

by Chuck Miller

Though it has taken several years longer than anticipated for CD-ROM to reach the computing mainstream, it appears that 1994 is the year it will flourish in the hands of consumers. A recent *CGW* survey revealed that 33 percent of responding readers currently own a CD-ROM drive, and 48 percent plan to take the plunge in the near future. Many factors contribute to growth in this area: the development of speedier CD-ROM drives, volume drive sales and the resulting retail price wars, and a growing number of quality CD games. The whole emphasis on "multimedia" in the education, entertainment and business arenas has fueled the CD fire. Soon, gamers wanting the best in interactive entertainment will want to make the move to CD.

What makes CD-ROM so hot? Well, several advantages cause these silvery discs to outshine their floppy siblings. Of course, the massive storage capacity, approximately 600MB, is a key feature. This allows developers to create more elaborate products featuring full-motion video and CD quality audio—creations that could never be distributed on floppy disks. In addition, CD-ROMs offer greater ease of use. CDs employed as a distribution medium allow you to install a program on your hard drive without experiencing the dreaded multiple-floppy-swapping ritual. Just start the installation process and come back when it's done!

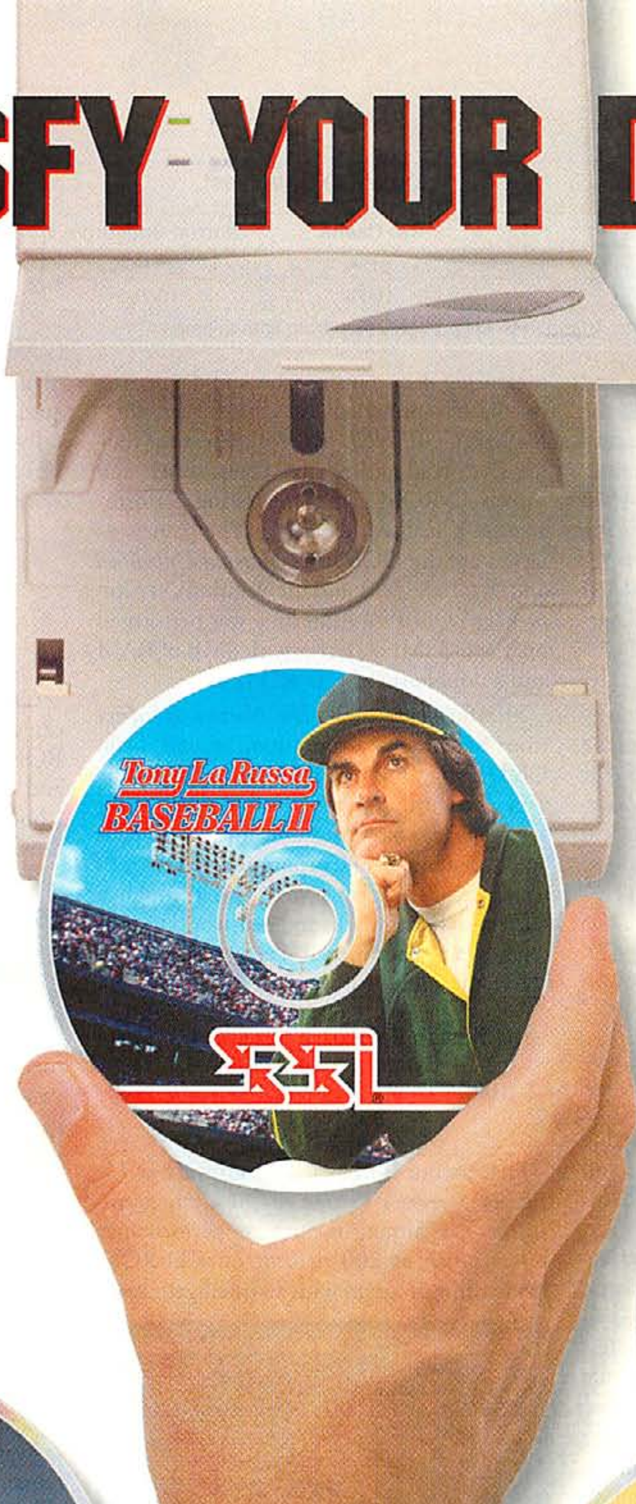
CDs also save you valuable hard drive real estate, as most CD-ROM titles only need to store a few files on your hard drive. This makes it easy to keep multiple programs at the ready without consuming your entire hard drive. Games will enjoy longer lives on our computers because we will not need to continually delete them to make room for the newest byte-gobbling title. In addition, CDs make an excellent medium for series compilations. As examples, one shiny little disc on my software shelf contains *Ultimas I-VI*, while a new release from **SSI** includes the complete *Eye of the Beholder* trilogy.

The Heartbreaks Of CD-ROM Access

Yet, in spite of their benefits, CD-ROMs have one major disadvantage—they are S-L-O-W! Compared to the average hard drive, even a double-speed CD-ROM drive is inept in its ability to access data. Just compare an average access time of 300 milliseconds for a double-speed CD drive with 15 milliseconds for an average hard drive and you quickly get the picture. While this is better performance than offered by earlier single-speed drives (especially since throughput has been noticeably improved), it still leaves a lot to be desired. Faster CDs are in the works, including triple- and quad-speed devices (NEC has already announced their entries), but the price on these improved units will remain steep until the competition picks up and a good number of these faster drives are sold.

So, what do we do in the meantime? The alternative to investing in newer, costlier technology is to make the most of what we have. Primarily, two things can be done to optimize the performance of your current (or soon to be purchased) CD-ROM drive: add caching software and drop in some extra RAM. Both work together to improve not only CD performance, but overall system performance. Though our focus is on software caches, it is also prudent to address RAM requirements, at least briefly, as memory is the fuel upon which caching software

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TABLE 1

Dune CD Drive Test				
	No Cache	Norton Speedrive	CacheAll	Lightning
Data Transfer Rate (in seconds)	313K	341K	198K	313K
Data Access Regularity (at 120K/second)	100%	100%	93%*	96%

* Data transfer speed is a little bit irregular. Animations will probably stop from time to time.

feeds. Put simply, there are minimum and ideal RAM configurations you should be aware of depending on your gaming requirements. If you do your gaming entirely under DOS, you should have a minimum of 4MB of RAM in your system, with 8MB being ideal. Gamers who also frequent *Windows* should double that figure, with 8MB of RAM as the minimum and 16MB the ideal. Whatever the case, don't scrimp on the RAM.

SmartDrive Don't Do That

As you may know, you already have a cache program, *SmartDrive*, if you own *DOS 5.0* or later or *Windows 3.0* or *3.1*. Though *SmartDrive* is a very capable cache program, it will not cache CD-ROM drives. We need to look elsewhere, then, to find the answer to our lack of cache. *(Note: Under the newly released DOS 6.2 upgrade, SmartDrive will now cache CD-ROM drives. Unfortunately, we were not able to include this new version in our tests. -Ed)*

The answer, I believe, lies in caching software. While not a fix-all solution for the heartbreaks of CD-ROM access, caching software is a small step toward making life with a CD-ROM drive more enjoyable and productive. However, there are times when a software-based disc cache can actually *decrease* the performance of your CD-ROM drive. We will discuss this in more detail later. Additionally, each cache must be tuned to your system's particulars to gain the greatest benefit. For the purposes of this test, each program was benchmarked in its *default state* as installed. Granted, this may not offer a comprehensive determination of the maximum benefit from each cache. Nonetheless, ease of use, installation and configuration are important concerns. Few gamers will invest hours fine-tuning their cache software. They will install it, possibly tweak it a little, and then move on to their primary concern—playing games. Thus, the software offering the best "default performance" will *probably* benefit the greatest number of gamers. Besides, it is difficult to justify spending hours configuring a program that will, at best, only save a few minutes of waiting time per gaming session.

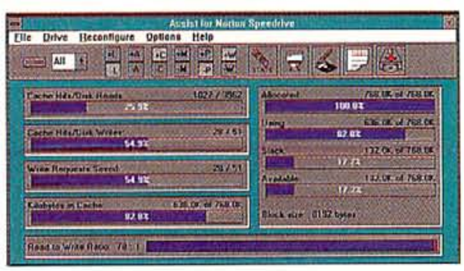
The Candidates, Please

Three benchmarks were chosen for this comparison: the *Dune CD Drive Test* for measuring data transfer rates and data access regularity (provided on the *Dune* CD-ROM); *CDBENCH* by **Profit Press** for testing seek, read and relative access times; and three CD-ROM games for testing performance in a real-world setting. The games selected are the DOS titles *Dracula Unleashed* and *Return to Zork*, and the Windows version of *King's Quest VI*. All testing was performed on a 386-33MHz system with 8MB of RAM and a double-speed CD-ROM drive.

The first entrant is *The Norton Speedrive* from **Symantec Corporation**. Second, from **C&D Programming**, we have *CacheAll*, the only entrant that caches networks. *Lightning for Windows*, our third and final entrant, is sponsored by **Lucid Corporation**. All three of these cache programs were run through a battery of benchmarks and real-world tests to see how they performed. Let's take a look at the results and see if we have a winner.

The Norton Speedrive Version 4.0 ($99)
Symantec Corporation
10201 Torre Avenue, Cupertino, CA
95014-2132
(408) 253-9600

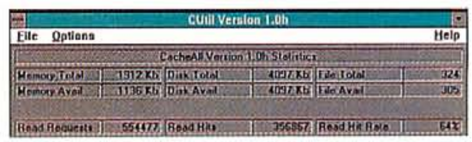
First on our list of caching software is *The Norton Speedrive Version 4.0* (formerly *SpeedCache+*). Claiming to increase performance by as much as 200 percent on CD-ROM games, this program with an intelligent read-



ahead cache speeds up information access under both DOS and Windows. Though it offers little in the way of added extras, *Speedrive* exhibited the best performance overall of the three caches tested. To its advantage, it is easy to install and use, automatically configuring itself for optimum performance and loading itself into upper memory when available. Two included programs for *Windows*, *Speedrive Assist* and *Disk Performance Tester* makes accessing and testing *Speedrive* a snap. All statistics and parameters may be viewed and modified quickly and easily. A cache size of up to 23MB is supported and *Speedrive* automatically adjusts memory usage dynamically for fastest access times. *The Norton Speedrive* is a solid performer for standalone systems.

CacheAll Version 1.0 ($129)
C&D Programming
1611 Mayfair Circle, Salt Lake City
UT 84158
(801) 582-0737

CacheAll, the only software at present that can cache network drives in addition to CD-ROMs, offers a package that is easy to install and provides good Windows support (though installation is from DOS). Its Windows utility, *CUtil*, allows you to display and reset statistics, flush memory, display and



modify all parameters, and enable/disable its swap file. Like *Speedrive*, *CacheAll* provides little in the way of added extras. However, it is more difficult to configure than *Speedrive* for the average gamer. In addition, its chief claim to fame—network support (where it can speed up lagging LAN-related work)—offers little advantage to the great majority of gamers. Though *CacheAll* performed well in most tests, it did experience some problems in relation to drive access regularity which hurt its performance. Still, the ability to use a hard drive swap file for extra cache space, *a la* Windows, can provide a real boost to systems that are light on RAM. In general, *CacheAll* is superior to *SmartDrive*, and a benefit to those with systems on a network. However, for general gaming it's only an average performer.

Lightning for Windows ($129.95)
Lucid Corporation, 101 W. Renner Road
Suite 450, Richardson, TX 75082
(214) 994-8100

Though originally released and still available as the DOS program *Lightning CD*, the newer version *Lightning for Windows* was selected for this comparison as it offers caching



TABLE 2

CDBENCH Version 2.4 CD-ROM Performance Test
(Initial Test Run / Second Test Run)

	No Cache	Norton Speedrive	CacheAll	Lightning
Seek & Read* (in milliseconds)	30.2/33.9	25.6/.9	25.6/29.3	29.3/27.5
Sustained Long Read** (in bytes per second)	979K/1,157K	979K/4,771K	1,091K/1,193K	1,157K/1,091K
Sustained Short Read** (in bytes per second)	1,363K/367K	1,908K/1,908K	308K/308K	309K/308K
Relative DOS Access* (in seconds)	8.8/5.4	5.4/5.2	2.7/5.2	8.4/9.0

* Lower number is better. **Higher number is better.

for both environments. Of the three caches tested, *Lightning* offers the most for the money when it comes to included utilities. All *Lightning* statistics and parameters are displayed and accessed through the *Lightning Control Panel.* In addition to this handy interface, *Lightning* includes *Kazoomer,* a screen magnification utility; *Piranha,* a file deleter; and *PolyPoly,* a screen saver. Installation, unlike the previous two programs, is handled through Windows. Since there are more options available with *Lightning,* it is not quite as easy to use as *Speedrive,* but is simpler to configure than *CacheAll.* It also uses an intelligent algorithm that "learns" as you work to improve its hit rate. Under DOS, *Lightning* speeds up text screens and increases the repeat speed of your keyboard. It also comes with a 30-day, money-back guarantee. As far as performance goes, *Lightning* wedges itself between *Speedrive* and *CacheAll,* placing it middle of the road in performance, though out front as far as extra goodies are concerned.

Please Approach The Bench

Before taking a detailed look at the benchmarks, several points should be made concerning cache performance in general. To begin, benchmarks can be a sterile measure of performance. That is why real-world tests with actual CD-ROM games have been included. In addition, comparisons were made with no cache installed to clarify the actual gains attained by using caching software. Finally, 2MB of RAM seems to be the most effective cache size for the majority of game applications. Improvements when using larger RAM caches are minimal. With this in mind, let's proceed.

The first benchmark used, with results posted in Table 1, was the *Dune CD Drive Test.* In this benchmark, *Speedrive* exhibited the highest Data Transfer Rate (DTR) and Data Access Regularity (DAR). *Lightning* placed second, followed by *CacheAll.* Significantly, only *Speedrive* showed an actual improvement over running *no cache* at all. *Lightning* maintained the same DTR, but suffered a decrease in DAR. *CacheAll* suffered a significant loss of DTR, and the test warned of potential difficulties due to its DAR rating.

Moving on to Table 2 and the *CDBENCH* performance test, we see that *Speedrive* and *CacheAll* showed an improvement over no cache on the Seek and Read test, while *Lightning* exhibited an insignificant gain. On the Sustained Long Read test, *Speedrive* showed no initial gain while *CacheAll* and *Lightning* both displayed a slight improvement. On the Sustained Short Read, only *Speedrive* showed any gain. The other two caches actually *decreased* performance. Results of the Relative DOS Access test showed *Lightning* to offer no improvement while *Speedrive* and *CacheAll* displayed comparable gains. However, note that when the test was run the second time, *Speedrive* exhibited significant gains over the other caches everywhere except in Relative DOS Access.

The Game's The Thing

This brings us to the real-world tests—measuring results with actual games. Surprisingly, tests reveal that, in practice, very little gain may be experienced with CD-ROM games when running cache software. Table 3 makes it obvious that we are only talking about saving a few seconds here and a fraction of a second there when it comes to accessing CD-ROM game data. As far as the cashing software goes, all three programs performed comparatively well with each game. Though *CacheAll* did not do as well as the closely matched *Speedrive* and *Lightning* caches, the differences are really insignificant. In a gaming session of several hours, we are only talking about a few minutes variance at best.

Caching It In

So, what are we looking at with regards to actual improvements, if any? Does caching software benefit the gamer? Yes, even if only modestly at times. Remember, caching improves floppy and hard drive access as well as that of CD-ROM drives. Also, the benefit gained will vary depending on the performance level of your computer (386 or 486, SX or DX), how much RAM is available, whether you have a single- or double-speed CD-ROM drive (owners of older single-speed drives will notice greater improvements than those recorded here), and to what degree, if any, the drive employs hardware-based caching. Thus, improvement extends beyond the results indicated.

Yet, as indicated by the benchmarks, in most cases the difference in performance offered by these software caches is only slightly better than that experienced with no cache. What are the reasons for this lack of significant improvement? Actually, several explanations account for these findings. First, tests on CD-ROM drives and CD caching software are not entirely accurate. Most newer drives employ built-in hardware caching, offering anywhere from 64K to 256K of on-board cache. Unfortunately, these hardware caches can sometimes conflict with software caches. The result—decreased performance! Running a software cache in conjunction with the hardware cache can actually slow access.

Another problem is that caches only begin to show significant gains as data is repetitively accessed. Games, like adventures, where you access the same screens on a regular basis may show acceptable gains, decreasing the waiting time for screen transitions and game menus to appear (several seconds can seem interminably long when waiting to access a menu selection). However, games offering a continual stream of new data exhibit little improvement. Sometimes, new data is transferred at such a fast rate that the combination of this data flow and the previously mentioned cache conflicts cause performance lags that result in video and/or audio segments stopping or pausing repeatedly. This is why many CD-ROM game manuals suggest turning off any caching software before play begins.

So, what does all this mean for the gamer? Well, I don't think it means that a software cache is of minimal worth. The value of running cache software is dependent on the considerations touched upon above—the capabilities of your computer system, especially the CD-ROM drive. Drives with a large internal hardware-based cache will exhibit less performance gains (and possible performance impairment) than a CD-ROM drive with a small internal cache or none at all. A noticeable performance difference also exists between single- and double-speed drives

TABLE 3

Real World Game Benchmarks (Initial Access / Repeat Access, Time in Seconds)	No Cache	Norton Speedrive	CacheAll	Lightning
Dracula Unleashed (DOS)				
Exit Home to Street	2.17/.57	2.13/.65	2.71/.53	2.20/.53
Enter Carriage	3.77/1.72	3.71/1.65	4.79/1.64	3.71/1.66
Return to Zork (DOS)				
Mt. Pass to Lighthouse	2.97/2.61	2.23/1.43	3.03/1.76	3.04/1.65
Ascend Lighthouse Stairs	13.94/13.22	14.25/12.90	17.38/12.74	14.03/12.78
King's Quest VI (Windows)				
Load to Option Screen	60.38/60.31	55.24/54.90	58.95/44.52	58.85/56.90
Restore Save Game	4.02/4.00	4.01/3.61	4.13/3.98	3.96/3.72

when running cache software. Thus, some experimenting is necessary with each CD-ROM drive and game to determine if performance gains are realized or not. My suggestion—run caching software unless you encounter problems. You will probably experience some gain, although it won't be dramatic. Of course, every little performance boost when dealing with CD-ROM's slower access rates helps.

Before closing, I would like to offer some final recommendations. First, only purchase a double-speed drive or better! Yes, there are some killer deals to be had on single-speed drives, but the purchase of one of these may result in you becoming the victim. My advice? Just say no!

A second concern is RAM. Simply put, it's an essential. Outfit your system with as much RAM as you can afford, up to the ideal. You will be happier and your computer will be happier, too.

To conclude, cache software is a useful enhancement to overall system performance, beyond that of your CD-ROM drive alone. Just don't expect breathtaking results. In most cases, benefits will be subtle. Based on the tests performed, any one of the above caches will provide some gain in system operation. Personally, though, *Speedrive* is my preferred choice. It offers the greatest ease of use and installation, the best performance, and the least amount of effort to configure.

Once your cache is installed, run some games. If you experience problems with the data transfer of video or audio, try the game with the cache disabled. As always, read the documentation carefully for specific information regarding cache software. But don't be afraid to experiment. Some extra RAM, a good software cache, plus a little time can go a long way toward relieving the CD-ROM access blues. CGW



Reviews

Microsoft Dinosaurs

To see the promise of multimedia in education fulfilled, get *Microsoft Dinosaurs*. Without question, this is the finest dinosaur title yet; it may be the most beautifully crafted educational CD-ROM title in existence today.

The artwork is breathtaking; spectacular paintings of dinosaurs and their surroundings populate the hundreds of panels of information. A series of full-screen movies deliver five animated informational sequences licensed from PBS and a dramatic movie of a dinosaur hunting in the forest. The movie soundtrack will raise the hair on the back of any young paleontologist's neck as the hunting cries and growls of these magnificent creatures come rumbling out of the speakers. The pictures, video clips and sound create an atmosphere that will keep any kid or parent enthralled.

At the program's core are more than 200 articles, each accompanied by paintings, text and audio buttons that can be used to check pronunciations of dinosaur names. Related articles are just a button press away. The main entry for tyrannosaurus rex, for instance, leads to nine related topics, including an explanation of the theropod's tiny arms, giant jaws, and killer instinct.

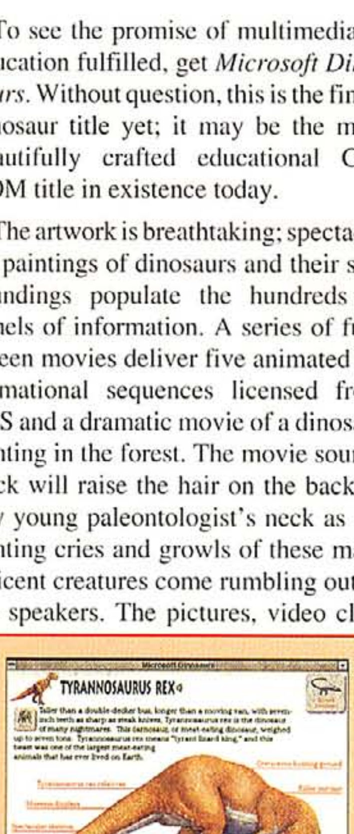
One of the challenges of presenting collections of encyclopedia-style information is to provide a logical yet interesting path through the data. Random access through an index or text search is great for looking up specific items, but other approaches are needed to make the product entertaining. *Microsoft Dinosaurs*' main menu provides four primary paths into the information, along with the index and dinosaur movies.

The Atlas shows a world map offering further screens for each continent and a related-article button that starts a string of panels explaining the changes in the earth's surface during and since the time dinosaurs walked the planet. The Timeline presents a graphic representation of geologic time from the Precambrian Era through today's Holcene Period, and leads to a study of the material in chronological order. The Families button starts with the different dinosaur families as a point of entrance. This path also includes prehistoric reptiles of the air and sea — contemporaries of the dinosaurs.

The most entertaining path is the Guided Tour. Narrated by Don Lessem, the founder of the Dinosaur Society, the program's 16 tours offer a light-hearted but information-packed walk through a series of related information. Lessem doesn't read the screens aloud; rather, the informational screens are displayed as mural exhibits that he explains, leaving time for reading and exploring them later. Lessem's charming narration keeps the younger set interested while providing solid scientific information to all.

For students who want to concentrate on the multimedia aspects of the program, the Options menu offers a slide show, a picture gallery, screen savers, and a print menu. The picture gallery is the real star here, as each picture can be saved to the Windows clipboard and then copied to a word processor for illustrating reports or for making stories. But even if your kids don't use the gallery to create their own reference works, *Microsoft Dinosaurs* is a wondrous, captivating experience for dinosaur lovers of any age.

—Richard O. Mann



Microsoft Dinosaurs

Price: $79.95

In Brief: A fascinating exploration of the world of dinosaurs.

Requirements: IBM compatible (386SX or better) with 4MB RAM; VGA display; hard disk with 2.5MB of free space; CD-ROM drive; mouse; speakers or headphones; Windows 3.1 or higher.

Audio Support: MPC-compatible sound devices.

Microsoft
One Microsoft Way
Redmond, WA 98052
(206) 882-8080
Circle Inquiry #165

Richard Scarry's Busytown

Parents and educators have long admired the works of children's writer Richard Scarry for the lessons they've taught kids about life and language. Now, Huckle, Lowly Worm, and other engaging Scarry characters are here to teach on the computer screen.

The program's action centers around the main screen, which provides a colorful and panoramic view of the town. Kids move the cursor (Lowly Worm's apple copter) to select the playground



they want to visit. There's a deli, a see-saw, a doctor's office, and a ship, to name just a few. Each has its own setting, music, and characters, and targets particular developmental skills.

Busytown's playgrounds are divided into easy, intermediate, and advanced levels of difficulty, and can be installed in increments to suit the age and skills of the players. The designers intended this as a way of allowing the program to grow with the child. While it may be effective in that context, it can also prove frustrating, as all of the playgrounds, even those not installed on the computer, are visible on the main *Busytown* screen. Kids won't understand that some areas are inaccessible when they can see it in front of them.

All of the episodes engage kids in behaviors that are productive, cooperative, and challenging. The fire station, for example, provides practice with planning, cause-and-effect relationships, directional skills, and helping others. Aside from all the learning, it's pure, unadulterated fun for kids, who get to load hoses on the fire engine, jump into raincoats, slide down the fire pole and race off to save the occupants of a burning building, blowing the siren all the way.

Busytown offers an appealing visual element, in spite of some choppiness in the animation. Richard Scarry's characters are faithfully reproduced, and kids will find the variety of situations and tasks stimulating. The characters communicate with one another throughout the program, and there's a variety of sound effects that kids will enjoy.

Technically, the program puts a lot of demands on computer hardware. The manual covers all the basics and includes a chapter that guides the parent through non-computer activities that can enhance the computer-based lessons.

Busytown is a must-have if there's a young child in the house. Even with its potentially-daunting technical requirements, this wonderful program should find a place on the home PC hard drive.

— *Dennis McCauley*



Richard Scarry's Busytown

Price: $59.95

In Brief: The world of Richard Scarry becomes a setting for a variety of developmental activities.

Requirements: IBM compatible (386 or higher recommended) with 640K RAM; VGA display; hard disk with 6MB free space.

Audio Support: Sound Blaster compatible

For Ages: 3-7

Paramount Interactive
201 West 103rd St.
Indianapolis, IN 46290
(800) 992-0244
Circle Inquiry #166

Yobi's Magic Spelling Tricks

This captivating program does a decent job of combining entertainment and spelling drills. But it does an even better job of using phonic clues to teach spelling techniques based on auditory hints. By linking the spoken word to the mouth movements of Yobi, a Yoda look-a-like, young spellers can actually see how different sounds are produced. These visual reinforcements are essential if youngsters are using sound rather than written clues to build their spelling skills.

But *Yobi's Magic Spelling Tricks* isn't just about an intriguing use of speech technology, it's also about solving mazes. As Wali, Yobi's strong armed assistant, you must help Yobi travel 100 miles upriver, negotiating the mazes that block the path at every mile post. Each maze is solved using a similar technique. Kids must touch each letter of a tricky spelling word (like *journey* or *thought*) while avoiding alligators, demons, pits and tigers.

Figuring out the spelling of the word is sometimes easier than getting through the maze. For kids who find Nintendo games a challenge, the mazes are very appealing. The puzzles are so much fun that they become the reason to play the second half of the game, the Spell-down Challenge. This untimed spelling drill consists of words that Yobi pulls from a list of hundreds. After each maze is completed, kids must do a Spell-down before continuing. The target word is spoken (an auditory hint) and Yobi's mouth moves (visual reinforcement). All spelling must be done based on these clues, a radical change from the mnemonic used in the mazes. To get back to the main game, students must correctly spell from 3 to 10 words on the first try (the number increases as they move upriver). Missed words are spelled correctly by Yobi, then recycled to be tested again and again.



Yobi's Magic Spelling Tricks

Price: $49.95

In Brief: Kids learn tricks to spelling difficult words with this entertaining program.

Requirements: Macintosh with 4MB RAM, 256-color display; hard disk with 9.5MB free space; System 6.0.7 or higher.

For Ages: 7 - 10

Other Versions: Windows ($49.95)

Brightstar/Sierra On-Line
P.O. Box 485
Coarsegold, CA 93614
(800) 326-6654
Circle Inquiry #167

The publisher has rated the program for 7-to-10 year olds, but kids up to 14 could use it. Older kids can more easily enjoy the maze challenges without finding them frustrating — even good spellers will profit from the enforced practice. If parents were able to modify the word list to emphasize their child's daily or weekly spelling list, *Yobi* would be perfect.

Overall, *Yobi* offers good educational content, some rather challenging puzzles, and a competitive motif that keeps youngsters interested.

— *Leslie Eiser*

Math Rabbit

Hurry! Step right up and test your number skills. *Math Rabbit* provides four entertaining circus activities that help kids develop proficiency in counting, number recognition, addition, subtraction, and number relationships. Each

activity contains speech, music and animation that will keep your kids captivated for hours.

In the Calliope Game, kids make music while they practice counting. First, they learn to associate number symbols with their spoken names and relative values. The approach is effective, associating increasingly higher numbers with higher pitches and positions on the chart. When the counting is done, the pipes toot a tune corresponding to the numbers. To improve memory and concentration there's Balloon Match, where kids pop the balloons to pair up hidden sets of objects with their corresponding numbers.

A circus wouldn't be a circus without animal acts like the Sea Lion Show. These talented performers balance numbered balls on their noses, assembling addition and subtraction problems to solve. Another game, Tightrope Show, features Hanna Hippo and her target number. The goal is to compare sets of objects or math problems as equal to, greater, or less than the target number.

Each time your child completes any game, *Math Rabbit* performs one of several entertaining routines—from swinging on the tightrope to performing a juggling act. Successful rounds earn prize tickets that can be traded for an assortment of comical, animated prizes.



Math Rabbit

Price: $49.95

In Brief: Circus games develop skills in number recognition, counting, addition, subtraction, and number relationships.

Requirements: IBM compatible with 640K RAM; EGA or VGA display; hard disk; mouse.

Audio Support: Sound Blaster compatible

For Ages: 4-7

Other Versions: Macintosh ($59.95)

The Learning Company
6493 Kaiser Dr.
Fremont, CA 94555
(800) 852-2255
Circle Inquiry #168

Games, tickets and levels are automatically saved upon exiting.

An Options screen allows you to make the games more challenging to match your child's progress. Customize math operations, problem formats, target numbers, game speed, and more. Beginner's hints and help menus are always available.

Math Rabbit is very easy to use, and accommodates different learning styles. It's a fun program kids can really count on.

— Mark Haverstock

Fisher-Price Picture Dictionary

Parents looking for a picture dictionary that's as easy to use as A-B-C need look no further. The *Fisher-Price Picture Dictionary* opens onto the world of words with spinning alphabet blocks, sound effects, and memorable illustrations.

This program is suitable for very young children, perhaps even younger than the recommended age range. The pictures are colorful and the music is delightful. After kids select a word (*fall*, for example), the program displays a picture of an autumn scene, accompanied by the selected word. In this example, as a child moves the cursor over the picture, the words *tree* or *leaves* will appear. Children are free to click on any of these words as well, which will whisk them to a separate screen, with the selected word and picture there for learning. The program accounts for homographs (words that are spelled the same but have more than one meaning — such as the *fall* in our example).



Fisher-Price Picture Dictionary

Price: $39.95

In Brief: A simple, computer-based picture dictionary for the very young.

Requirements: IBM compatible with 640K RAM; EGA or VGA display; hard disk.

Audio Support: Sound Blaster compatible sound devices.

For Ages: 3-6

GameTek
2999 NE 191st St., Suite 800
North Miami Beach, FL 33180
(305) 935-3995
Circle Inquiry #169

With all this interactivity built in, it's disappointing that the program lacks any speech or voice technology. If children were able to click on pictures and hear words pronounced (or spelled out loud), the program would provide the kind of auditory reinforcement new readers need.

Picture Dictionary does have some sound effects — like cats meowing and telephones ringing. But the quality isn't up to the same level as other educational titles. The program is accompanied by soft, childlike music which kids or parents can switch on or off with the click of a button.

Children within the recommended age group display a wide range of reading skills, which can lead to problems in this program. Some of the sentences that accompany the pictures are too complex for pre-readers to decipher without adult assistance. On the plus side, kids are not confined to traditional alphabetical constraints and can enjoy exploring picture after picture, word after word.

— Felicia Donovan

CNN Newsroom Global View

Cable News Network has repeatedly shown its ability to be where news is happening and report that news 24 hours a day. During the Gulf War, world leaders relied on CNN and not their own intelligence services for up-to-date reports on the war's progress. CNN is the undisputed leader in world news coverage.

Multimedia technology now brings six of CNN's themes — Small World, Waging Peace, Collapse of Communism, Earth (Environment), Cultures in Conflict, and Famine in Africa to the computer screen. These six issues are timely and important, and CNN courageously covers them, irrespective of ratings and outside influence.

Famine in Africa, while being one of the most important issues of our time when this series was broadcast, received

the worst ratings ever for any news coverage series. In spite of the ratings, CNN continued to cover this important story while the world turned away, unable to look at the unbelievable real-life horror of famine and starvation.



CNN Newsroom Global View

Price: $99.95

In Brief: A multimedia excursion into the files of CNN.

Requirements: IBM compatible with 640K RAM; VGA display, hard disk with 1MB free space, MPC compatible CD-ROM drive, MPC-compatible audio card

Audio Support: Sound Blaster and compatible sound devices

Compact Publishing
5141 MacArthur Blvd.
Washington, DC 20016
(800) 964-1518
(202) 244-4770
Circle Inquiry #170

One hundred-twenty video clips with speech, which represent more than one hour of full-motion video coverage, taken from CNN's most compelling coverage of important global issues, are presented within this CD-ROM product. The video clips are presented in IBM photomotion at about one-quarter of full screen size. Combine the *CNN Newsroom* video clips with a vast collection of maps, articles, tables, and charts, and students have an authoritative, up-to-date reference on world affairs and a world atlas.

The *CNN Newsroom* and world atlas is augmented with a Worldclock, which will display the time in any location in the world, showing the distance between locations and time zones on a globe that doubles as a screen saver. The Worldclock shows an amazing diversity as a timekeeper, calendar, mapfinder, chartmaker, and screensaver.

One of the program's best features is its chart and table utility, which can be used to construct charts from information gleaned from the country and regional database. This extensive source of information is divided into several topic areas: people, politics, economy, military, and resources. Six types of charts can be prepared, comparing multiple years of statistics from 1950 to today for up to 20 countries. It can be an eye-opening experience for students to see how these countries relate to each other, and to compare the vast gulf between cultures and countries.

The program's calendar is just tacked on, and adds little value to the overall product. But the main features have interesting and educational uses. *CNN Newsroom Global View* will certainly satisfy the requirements of any student interested in contemporary history and the stories that have captured the headlines in recent years.

— Alfred C. Giovetti

Fatty Bear's Birthday Surprise

Though easily taken as pure entertainment, this delightful program swings into an educational mode without missing a beat. Its child-appropriate activities are more enlightening than parents might expect. Intelligent helpers are quick to lend a hand. Best of all, completing the adventure isn't required — it's really and truly an option.



Fatty Bear's Birthday Surprise

Price: $54.95

In Brief: A delightful alternative to traditional preschool games.

Requirements: IBM compatible with 640K RAM; VGA display; hard disk.

Audio Support: AdLib, Covox Speech Thing, Disney Sound Source, Sound Blaster, and compatible audio devices.

For Ages: 3 to 7

Other Versions: IBM CD-ROM ($54.95)

Electronic Arts
1450 Fashion Island Blvd.
San Mateo, CA 94404
(415) 571-7171
Circle Inquiry #171



The premise of *Fatty Bear* remains faithful to its target age group — kids aged 3 to 7. The story revolves around Kayla, Fatty's ponytailed owner, who is celebrating her birthday in the morning. All the toys have decided to surprise her by baking a cake and decorating her room. To play the game, kids must help Fatty assemble all the ingredients to the birthday cake, get Kayla's birthday present (a very frisky puppy) back into his box, and put up the decorations. Like any good adventure game, there are puzzles to solve and ample clues to discover.

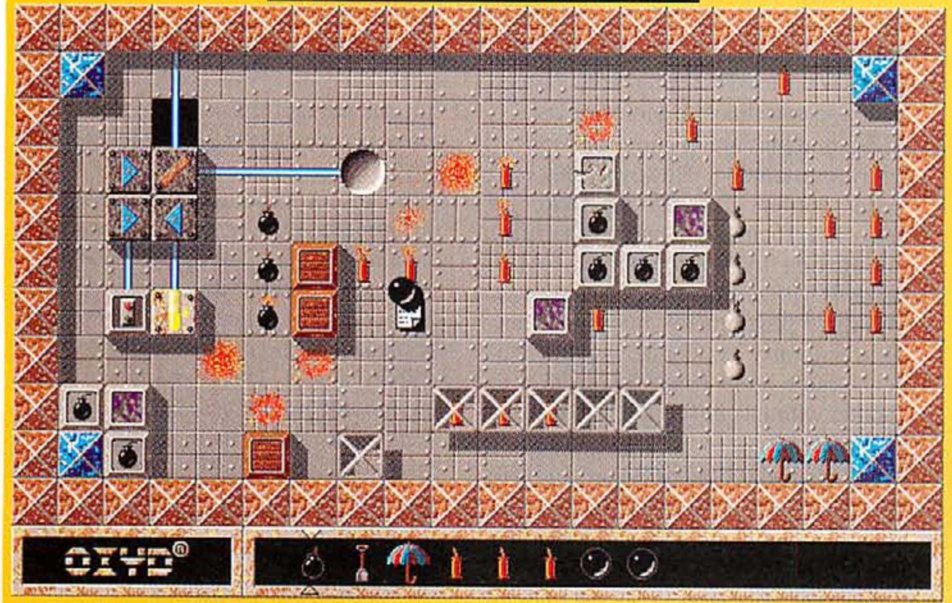
So what makes *Fatty Bear's Birthday Surprise* educational? There's no reading to do, as all the clues and hints are spoken. There are no hidden drill-and-practice routines. Instead, there are songs to play on the piano, balloons to count, and letter games to enjoy. Baking the cake means following directions. Fixing up Mr. Cabbage Head means learning body parts. But if kids don't want to go through these exercises, as enjoyable as they are, they can simply explore Kayla's house — checking out the treehouse, the garden, the garage, the kitchen, the living room, the bedrooms and the bathroom.

All this freedom makes *Fatty Bear* a wonderful introduction to the computer for beginning users and a delightful game for more experienced youngsters. There's enough educational content to earn a teacher's recommendation. And plenty of adventure and fun to earn enthusiastic reviews from parents and their kids.

— Leslie Eiser

My son and I love this game!!! Great work!!

Robert Strauss, Burbank



My daughter (11 years old) and I have become "Oxyd" addicts. We cannot wait to begin exploring the many other levels. Thanks for creating such an excellent product. R. S., Germontown

This is, without question, the most impressive game I have ever seen. I am amazed at the audio, visual and action. George L. Tanty, Arlington Heights

Outstanding program!!!! John Bernauer, Los Gatos

Wow! That's all I can say about Oxyd. What an incredible game! Hurry! I can't wait to play!!

This game is highly addictive. Stuart Ritchie, Canada

One of the nicest games I have seen in a long time.

Thanks for creating such a challenging piece of software. Steve Brannan, Canada

I'm completely hooked! Patricia B. Smith, NH

The game is a blast! Excellent graphics, extremely well done. Interesting challenges in each landscape also. I look forward to the next 90 landscapes. David Mangini, CT

The game is really slick, well designed. Those first 10 levels alone were worth paying for!

One of the most elegant games I've played. Thanks a lot for a great game. Jeffrey Jondahl, San Diego

OK so we got hooked!

I enjoy this game a great deal and so do my children and their friends. It is just what I have been looking for !! Jerome Wescott, Minneapolis

My whole family enjoyed your game a great deal. Michael C. Moore, Columbia

Oxyd has to be the most artistically superb piece of programming that I have seen. From my position of having completed about one third of the single-player levels, the landscapes have been continuously varied with a marvelous attention to graphic and audible detail that makes each new one a continuing delight. I especially appreciate how the marble interacts in seemingly realistic but different ways when rolling over or bouncing against different "natural" (or unnatural) substances like stone, wood, swamp, freefall etc. At this point, I'm already worrying that I'll run out of levels (assuming I keep solving the puzzles). Jeffrey R. Harrow

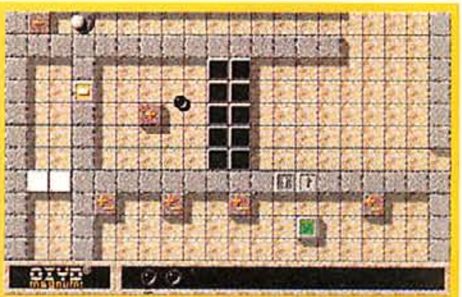
Even our 3yr old enjoys the game.

I just had to write to tell you how much fun I've had playing Oxyd. The attention to detail - the sounds, the textures of the surfaces - really adds to the fun of the game. It invites the imagination for a ride.

Thanks also for making all of the landscapes challenging but not impossible. At first I thought that landscape 76 was unfairly difficult, but when I found the way through it, I really admired the ingenuity. Tom Phoenix, Portland

It is rare to find such a visually appealing, addictive and playable game. Kathryn Wilson, Australia

I'm really impressed with your game, Oxyd. Congratulations on a unique and fun product, and best luck to you all. John M. Dodd, Thousand Oaks

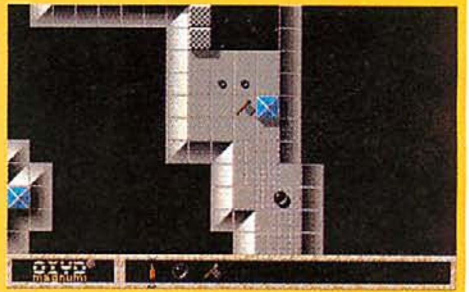


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LIFEmap: Animals with Backbones

This disc is part of a collection focusing on living things and their evolutionary relationships. Overall, it's a genealogy program of magnificent proportions that promises to illustrate the 3.5-billion-year-old history of life on our planet. The program shows students the relationships between animals with backbones: They may examine each animal, see how related animals differ, and find out what common ancestor two animals share.



LIFEmap: Animals with Backbones

Price: $39.99

In Brief: This multimedia CD-ROM explores the relationships between vertebrates.

Requirements: Mac II or better with 3.5MB RAM; 256-color display; CD-ROM drive.

Time Warner Interactive Group
2100 W Olive Ave.
Burbank CA 91506
(800) 593 6334
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Take, as an example, the three-toed sloth. *LIFEmap* presents a color picture of a sloth doing what sloths do (in this case, hiding in a tree.) From there, one can find out which animals are most like a sloth and why they're similar. These animals share a common ancestor, so one could look up the sloth's great-great grandfather. But if a student searches for an animal that is no more, the screen displays a glaring red *Extinct* stamp. Nice touch.

The CD features decent on-line help, in which a narrator explains how to navigate the program. The liner notes contain a brief explanation of organism genealogy, but a science book is required to fully understand how animal relationships are classified. Although the program always provides scientific names for animals — and even pronounces them — little explanation is given regarding scientific classification (phylum, subphylum, order, class, species). That makes it hard for students to tell if the name given refers to an animal's order or species. But the disc really shines when used as a reference, coupled with a science book or biology class.

The graphics and pictures are consistently outstanding. However, the program suffers from a lack of cross-referencing. Students can't export information to other programs. Also, *Animals with Backbones* is broken down into three programs — mammals, reptiles and early vertebrates — but students can't jump from one section to another without quitting one and loading the other.

Performance could be better, and will tax all but the most sophisticated machines. Although the program runs fairly quickly, be ready to go for coffee while it loads (this reviewer timed the loading process at about 3 and a half minutes on a Mac IIci with a middle-of-the-road CD-ROM drive).

Separate discs in the series cover Organic Diversity (bacteria, algae, fungi and plants) and Non-Vertebrate animals (insects, mollusks, sea stars.) The discs are available separately for about $40 each, or as a set for about $100.

— Kevin Savetz

Ladybug Electronic Calculator

Don't be fooled by the name. *Ladybug Electronic Calculator* is more than a simple electronic adding machine for kids. It is a programmed learning package that stresses organizational, decision-making and basic bilingual language skills. It is educational software that greatly enhances the joy of learning.

Ladybug exposes children to bilingual communication at an age when they are most receptive to a new language. The program blends this concept into the building blocks of primary education. It doesn't drill. Instead, it stimulates growth in reading, writing, computer literacy, social and natural sciences, and math.

Youngsters will be quickly drawn into the story line and should willingly explore the adventures. The sights and sounds grab their attention. The in-depth activities and intrigue sustain it.

Children can chose French or English for screen messages and directions. Animated screens change throughout the program, depending on choices youngsters make. Rows of large action icons line the edge of the screen. These icons provide access to several unique features.

For instance, the Help function gives objectives, playing instructions and technical details. The Encyclopedia entries come to life with colorful illustrations. A Camera feature takes a picture of the screen at any time and saves it to a photo album. The Drawing and Writing module lets players edit these saved pictures to create their own stories. A Print function makes it easy to produce copies of the finished work.

Kids and their parents should be prepared to learn how to use these features as, except for the Help icon, there is little instruction. There is no manual, only a four-sided sheet printed in French and English with sparse installation directions.



Ladybug Electronic Calculator

Price: $69.95

In Brief: Not just a simple calculator, this program also teaches science and math concepts.

Requirements: IBM compatible with 640K RAM; VGA or SVGA display; hard disk with 2MB free space; mouse.

Audio Support: Sound Blaster compatible sound devices.

For Ages: 4-8

DIL International
2115, rue Boivin
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Part of learning is self discovery. This program will provide plenty of chances for that. But if you and your kids need more direction, another learning program may be more appropriate.

— Jack Germain

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Melina Pariknova Lands The Fleet In The Vega System.
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The Forecast Calls For... Clear Skies

Domark's *SVGA Harrier* Ushers In The Era Of High-Res Simulators

by Tom "KC" Basham

SVGA Harrier from **Domark**, following closely on the 6-o'clock of **Kesmai's** *SVGA Air Warrior*, is one of the first combat flight sims to seek out SVGA skies for its simulated sorties. Together with its Kesmai counterpart, *SVGA Harrier* is leading the wave of next generation, high resolution sims.

Using the gaming engine from their *AV-8B Harrier*, Domark has refitted the earlier sim with Super VGA, 640x480 resolution, 256-color graphics. Though the graphic upgrade is the only functional difference between the first *Harrier* and *SVGA Harrier*, the step to SVGA is significant enough that, for the purpose of review, we will treat *SVGA Harrier* as an entirely new product.



What's The Sitch?

The player assumes leadership of a USMC Expeditionary Brigade (MEP) consisting of the 1st, 2nd, and 3rd battalions of the 9th Marine Regiment, and the 1st and 2nd battalions from the 6th Marine regiment. The MEP has been assigned to a small task force lead by the USS *Tarawa*, a general-purpose amphibious assault ship. The *Tarawa* is essentially a small aircraft carrier capable of helicopter and Harrier flight operations. The *Tarawa* is accompanied by several smaller amphibious assault ships and protected by a Kidd-class destroyer and three Oliver Hazard Perry-class frigates. A group of 20 AV-8B Harriers, 120 armored vehicles, and an undisclosed number of helicopters and infantry are carried by the task force.

When rebellion strikes Indonesia like a sneaky summer monsoon, the *Tarawa* is the only force in the region. With the consent of the UN, and under the orders of the President, you assume leadership of the entire task force and are charged with stopping the rebels and restoring order on the small island of East Timor, north of Australia. Although the politicians want only the minimum amount of force used, they recognize that the task force is small and outnumbered, so you are authorized to use any level of force desired. You have total control over the task force; landing and maneuvering ground forces, controlling helicopter operations (including insertion of special forces), and last but not least, AV-8B operations are all within your radius of control. You can assume the role of an individual AV-8B pilot and leave all the strategic details up to the computer; you can lodge yourself firmly in the *Tarawa's* command chair and handle only the strategic details; or you can play a role somewhere in the middle, setting and updating a strategic plan while flying individual Harrier sorties. In this aspect, *SVGA Harrier* is a very flexible product that both wargamers and flight simulation fans can enjoy. To win the Indonesian campaign, though, you must be active in both the strategic and tactical decisions.

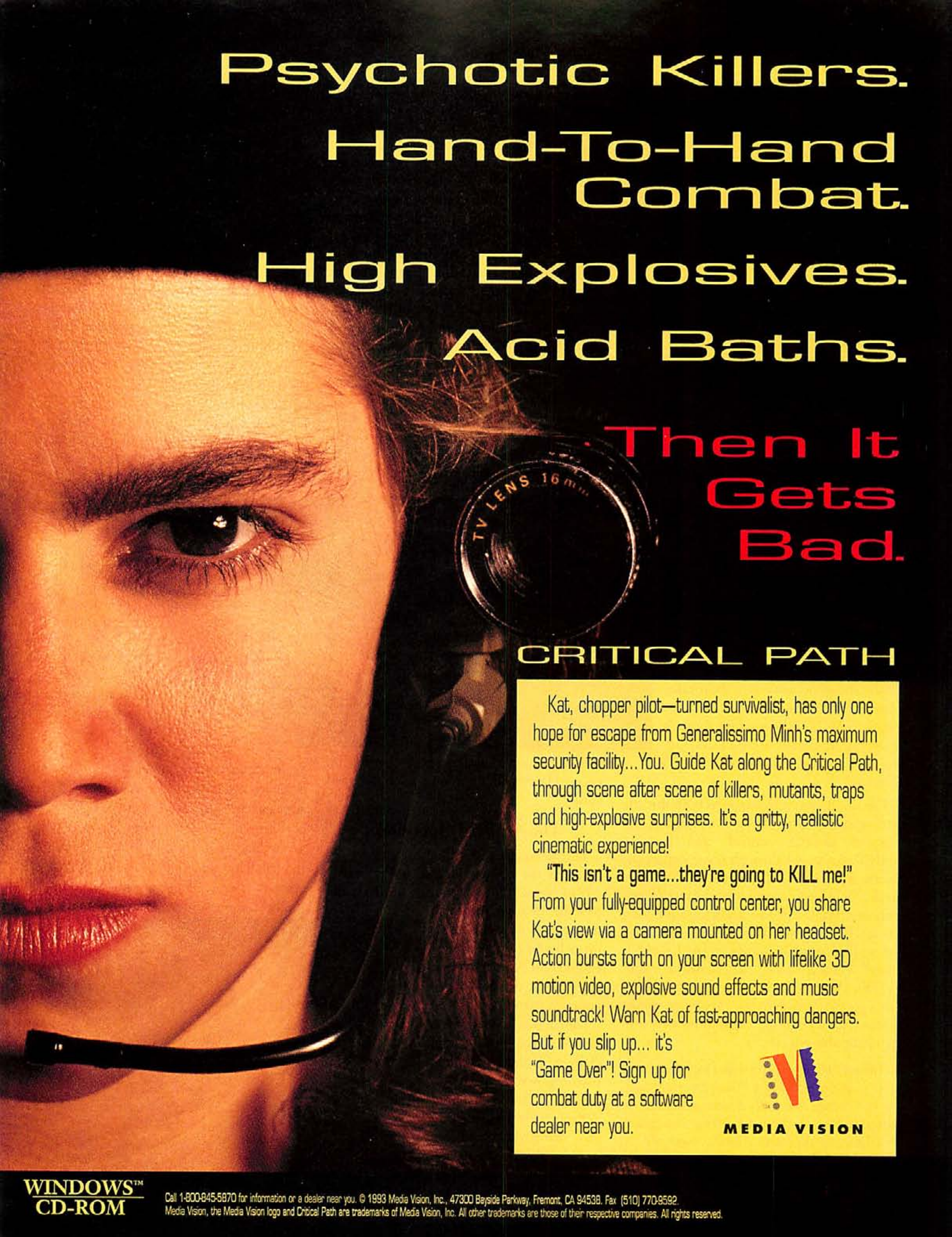
Flight Qualities

The flight simulator enthusiasts are by now asking the obvious question: How does it fly? *SVGA Harrier* has done a great job of conveying the *feeling* of flight, if not conforming to the exacting specifications of the AV-8B flight model. The basic feel of the aircraft is incredibly smooth, about the smoothest of any flight simulator currently on the market, and it handles quite believably in normal flight. Instantaneous and sustained g-loading are appropriately modeled as a function of speed, so that at 450kts you can pull an instantaneous 9g, but the speed will quickly bleed down to around 200kts leaving you with a sustained g-capability of 3g. The flight model has an above average modeling of angle of attack (AOA) effects, although stall buffet and departures are noticeably absent. Low speed flight is handled very well, especially the feeling of momentum and inertia. Nose-high descents can be performed, making for realistic traditional landings, but it's the sense of inertia that makes the Harrier feel like a real aircraft. The nose wallows like a lumbering hog when the speed falls near stall speed (Vs), and Pilot Induced Oscillation (PIO) is a

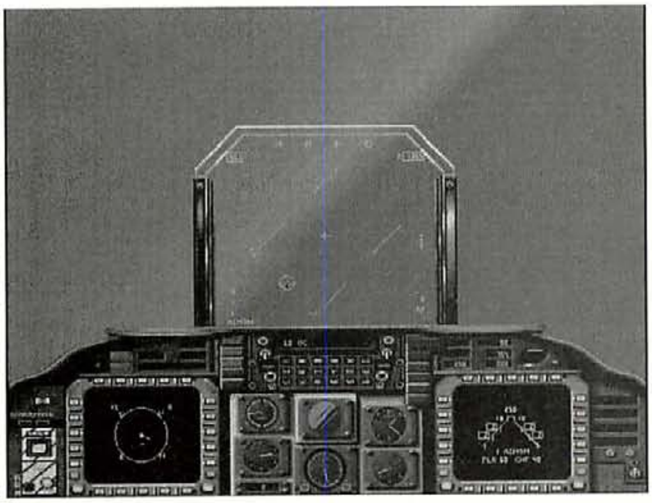
SVGA Harrier



TITLE:	SVGA Harrier
PRICE:	$59.99
SYSTEM:	IBM
REQUIREMENTS:	386-25MHz or better (486 recommended), 2MB RAM, an S3, ATI, or VESA compliant video card for SVGA (VGA also supported); supports AdLib, Sound Blaster and Roland sound cards, and dual joysticks
PROTECTION:	None
DESIGNERS:	Jonathan Newth, David Payne and Chris Tubbs of Simis
PUBLISHER:	Domark San Mateo, CA (415) 513-8929



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real danger when flying low and slow. *SVGA Harrier* has excellent support for analog controls and fully supports analog rudder pedals. The rudders are well implemented with inertial effects, although there is a noticeable lack of induced roll from the rudders.

But typical flight qualities are just the tip of the iceberg when talking about the AV-8B. The engine's thrust is vented through four exhaust nozzles along the aircraft's fuselage, and these four nozzles can be deflected anywhere from 0 degrees (pointed directly aft) to 110 degrees (pointed down and slightly forward) to provide many unique flying abilities such as rapid deceleration and vertical or short takeoffs and landings (VSTOL). It's the Harrier's VSTOL ability that allows it to operate just about anywhere, including the cramped decks of the USS *Tarawa.*

The simulation fully supports both throttle and nozzle control. Keys 1 through 0 are assigned throttle control, and pressing SHIFT plus keys 1 through 0 will deflect the nozzle from 0 to 110 degrees in 10-degree steps. Pilots have control over the nozzles not only during takeoffs and landings, but during normal flight as well. Using nozzle deflection for vertical motion during normal flight is called Vertical thrust In Forward Flight (VIFF). "Viffing" is widely hailed as the Harrier's greatest aerodynamic capability, giving reasonable dogfighting capabilities to a less-maneuverable aircraft.

Viffing 110 degrees provides forward thrust similar to the effect of a thrust reverser, causing the aircraft to rapidly decelerate and move upward. This can be used during emergency situations to slow the aircraft, especially to prevent overshooting a bandit during air-to-air combat or to force the bandit to overshoot you. Viffing lesser angles, such as 30 or 45 degrees force the aircraft "up" relative to the wings, but to a lesser degree. If the Harrier is banked to the right, viffing 45 degrees causes the aircraft to move laterally to the right and increases the rate of turn. Viffing allows the aircraft to gain an angular advantage during air combat against a better-turning adversary. Depending on the amount of angular correction needed, more or less nozzle deflection can be used. Viffing is not an infallible maneuver, however. Substantial or sustained nozzle deflection results in deceleration of the aircraft. If the aircraft slows below 170kts, the aircraft falls like a rock until forward velocity is recovered. At low altitude, this can be fatal. The Harrier is not a champion dogfighter like the F-16, but with judicious use of viffing an expert Harrier pilot is a force to be reckoned with.



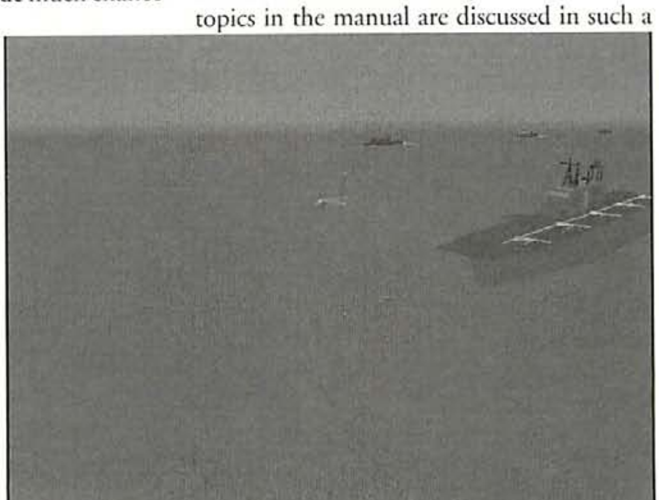
The Artificial Opposition

The advantages of viffing are heavily debated in the real world, and unfortunately *SVGA Harrier* does not provide much chance to settle the issue. Although there are plenty of opportunities for air combat against Indonesian A-4s, F-5s and even F-16s, the skill of the computer controlled pilots is poor at best. The AI pilots fail to use the vertical, especially with the F-16, often bleeding speed to 200kts and flying flat 3g circles indefinitely. By using high yo-yo maneuvers and an occasional viff, tackling F-16s is no problem. Computer controlled pilots also fail to use team tactics. More than once I found myself single-handedly tackling four F-16s. All four F-16s flew flat circles while I maneuvered behind them and downed each with cannon fire, one by one. Disappointing, to say the least.

Interfacing With The World

The game's strategic campaign in some ways rivals that of *Falcon 3.0,* but in other ways fails miserably. The general design is excellent, and the combined control of land, sea and air assets is wonderful. The user designs a battle plan, identifies which targets need to be destroyed or captured, deploys ground units, and assigns air assets to achieve those goals until either beaten by the Indonesian rebels or victorious.

The problem with the system is two-fold. First and foremost, the manual is one of the worst I've seen in a long time. While no manual can cover every aspect of a complex simulation, this manual doesn't even try. Strike one—there is no index. Two—the manual is poorly written and contains almost no graphics. And strike three—most sections state the glaringly obvious without providing any details. For example, the description of the "Drop Troops" helicopter mission reads: "This mission will be flown by a transport helicopter, which will land troops at the selected waypoint." No mention of how many troops is given, nor what the troops are equipped to do. After these troops are dropped, they never again appear on the strategic map, although some information boxes state "Special forces active in the area." Do the troops fight or just perform recon? Do they laser designate ground targets during air strikes? Can they be moved? There are no indicators of how many teams are available—can you run out? All topics in the manual are discussed in such a





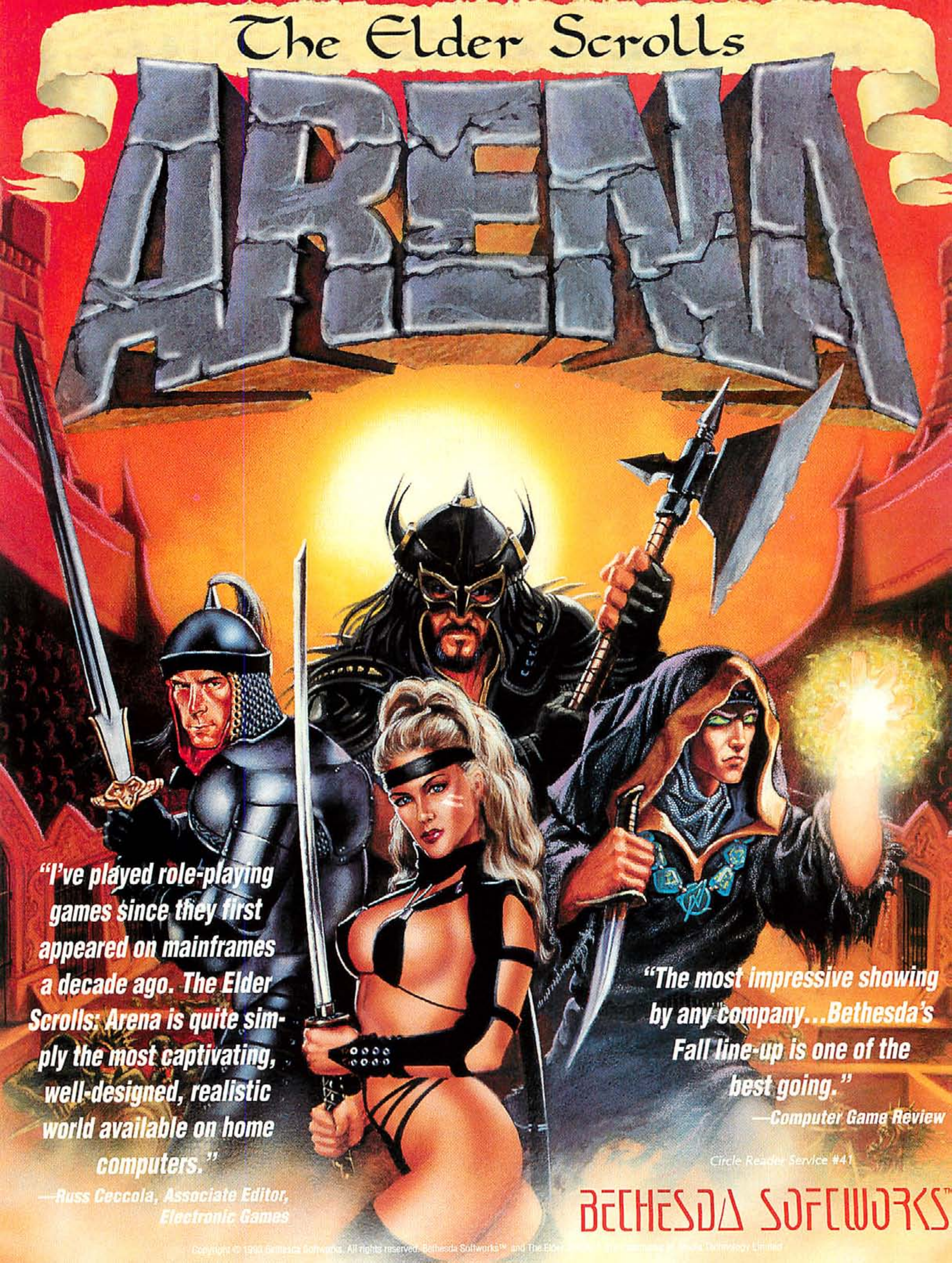
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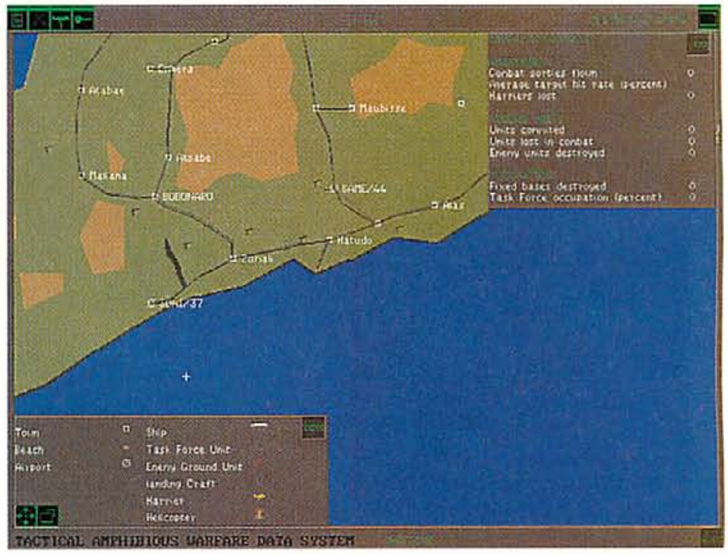
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—Computer Game Review
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casual manner, including AV-8B flight and weapons operation. Strengths, ranges and capabilities of ground units and weapons are obvious omissions.

The manual also included numerous outright errors. Despite what is said, no matter how many times I saved my campaign, my customized settings (such as sound and display preferences) were never saved. The manual instructs users to click on various icons for certain actions (such as a floppy disk to save the campaign), but the specified icon doesn't exist (the floppy disk is actually a telephone).

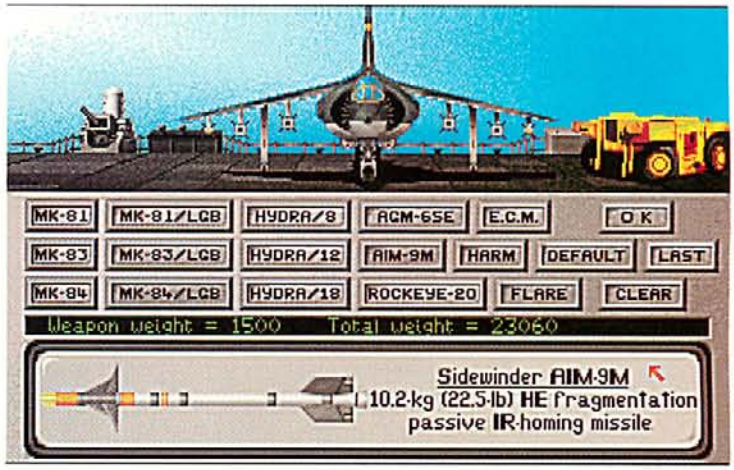
The other problem with the game is the user interface of the strategic map. Ground forces can only be directed to preset nodes such as villages, bases, cities or airports, and troops will not move through the jungle, only on roads. In some cases, a particular node identified for assault may be quite distant from the marines, but very near several other enemy nodes. Ideally, the marines would advance near the node, await air strikes, then move in before reinforcements arrive. This can't be done, though. Once the marine units set out, they move all the way to the next node. There were several cases of air strikes eliminating all enemy forces at a particular site, but before the marines could advance, reinforcements arrived.

Also, it is difficult to advance ground units. Ground units operate in groups, with each group having no more than three armored vehicles. In some of the more critical assaults, 15 or more groups would be holding position at a given node. To advance to the next node, I had to zoom into the map, select a single unit, zoom out the map, designate the new target, then repeat the procedure for each remaining unit. This process is tedious and unnecessary. The strategic campaign is the highlight of this game and is truly enjoyable, but the frustration level generated by the poor documentation and simplistic user interface may be too much for many players to bear.

SVGA Dreams, Simulation Realities

When given a chance to daydream, flight sim pilots have no problem conjuring images of complex 3D images on rolling terrain, with individual blades of grass streaking by on their monitor as they cruise 50 feet above the deck at 500kts. Lest the magic acronym "SVGA" lead to such unrealistic expectations, you should know that while *SVGA Harrier* does make full use of the 640x480, 256 color resolution, it does not pack the screen with high-detail objects.

Like *SVGA Air Warrior*, static displays, such as the cockpit are drawn extremely crisp and clear with the higher resolution, but most of the world looks the same as it did with plain old 320x200 resolution. The bulk of Indonesia is a flat green block, giving no indication whether the



terrain is jungle, sand, rock or grass. Mountains similar to those in *Falcon 3.0* stretch across the island. Ground objects are drawn with a nice degree of complexity, but are few and far between. The gradient horizon is well done, and anyone that has been to the South Pacific islands will appreciate the wonderful hazing effect of the mountains in the distance. In short, the game lives up to the promise of SVGA for the limited graphics available in the game, but probably fails to live up to what most users might first expect when they see "SVGA" in the title.

The Bug Hunt

Then there is always the inevitable list of bugs. Although *SVGA Harrier*'s implementation can be frustrating at times, it is overall a very enjoyable product. Unfortunately, the bugs give it an unfinished feeling. The most noticeable are the graphics glitches: objects not being properly erased and polygons of the wrong color suddenly appearing (such as large blue splotches over the green terrain when the aircraft is steeply banked). The strategic map often fails to refresh itself, leaving many destroyed targets visible and strange semi-circles and remnants of menus scattered across the screen until the user manually forces it to refresh.

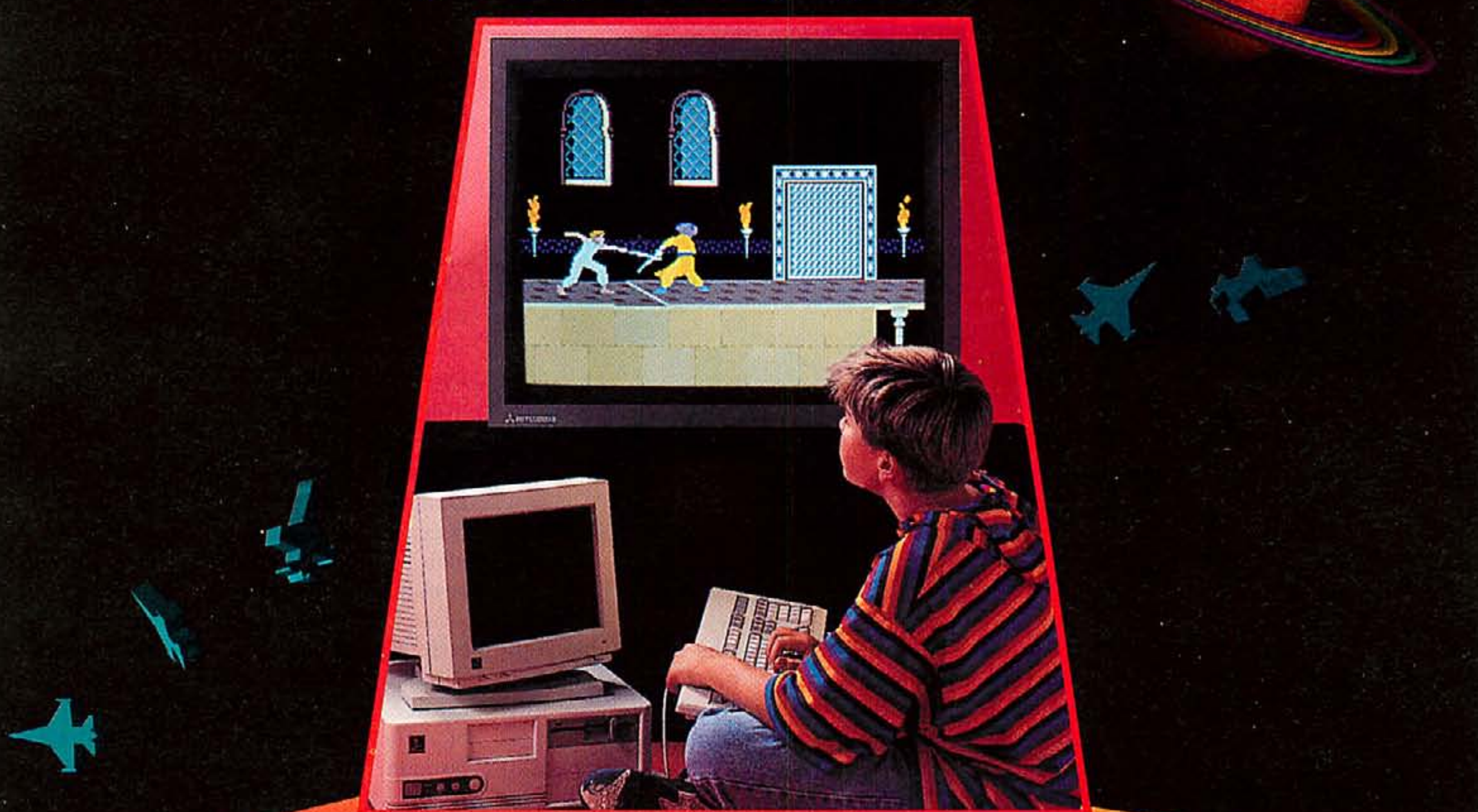
The game was highly unstable under QEMM 6.02, crashing and locking up the machine often. It was much more stable under QEMM 7.01, although the mouse would drop out after a couple of hours, usually after saving the game. Sometimes the game would continue fine after losing the mouse, other times it would crash.

Most notably, *SVGA Harrier* does not clean up after itself and leaves tons of items resident in memory. Restarting the game after losing the mouse always caused a lockup unless the machine was cold booted first. Each time the program is exited it leaves "SNDTSR" loaded in memory, using up 29.6K. If the game is entered and exited multiple times without booting in between, multiple copies of SNDTSR (each using 29.6K of memory) will be left behind. Whatever SNDTSR is, *Windows* doesn't deal with it very well.

Return To Base

SVGA Harrier has some very nice features including a first-rate flight model and a fine strategic campaign, but suffers from a few bugs, a weak user interface and extremely poor documentation. Because of this, a lot of experimentation is required to learn exactly how it works. Because of the quality of the flight model, flight simulation fans will probably find it a highly enjoyable product, especially for exploring nozzle control and vertical landings on the *Tarawa.* Wargamers, though, will probably find it inflexible and inaccessible, and not worth the time away from their standard gaming fare. CGW

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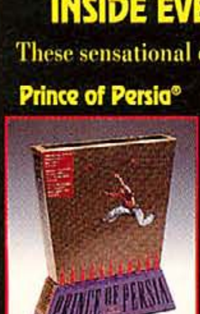
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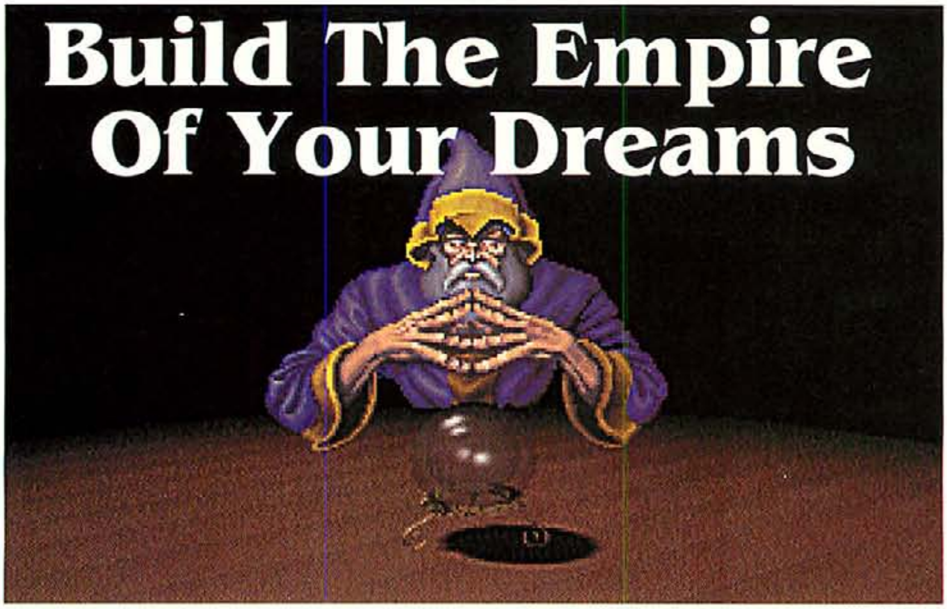
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Build The Empire Of Your Dreams

SSI Melds Role Playing And Strategy In *Fantasy Empires*

by Sean Jeffers

Are you an insatiable conqueror whose vitality withers without virgin territories to exploit? Does your blood burn at the thought of an unworthy invader reaping the bounty of your labor? If so, read on. SSI's *Fantasy Empires* can provide a productive outlet for your tendencies, which I am sure your neighbors will appreciate.



Fantasy Empires is a game that operates on many different levels. In some ways, it is a role-playing game and in others a strategic game of conquest. At the heart of it is your character, a single noble whose eyes are set on conquest. Your character can be one of the many standard *AD&D* races and alignments, and these traits can have a significant impact on the course of a game. Lawful characters, for instance, might earn more revenue from the lands they conquer, but they would also be firmly bound by the treaties they form with other characters. A neutral character is more free to seize opportunities as they arise, but must live with less income.

You begin the game as a first level character with unmodified skills. To help in your quest for experience, you may be able to gather a few trusty compatriots. These characters are not controlled like a "party," as in other role playing games, but rather as individuals. They may lead troops in battle or be sent on increasingly difficult quests to gain experience and items.

Some characters never return from these quests, and you are told of their passing via a text box and accompanying shriek of death. Those that do persevere will almost certainly go up an experience level and may or may not return with an item. There are two categories of magical items: those for use by the character who found it, such as a Bow +2 (only one such item may be held by each character), and those that are placed in the Imperial Vault for your character's use. The latter are generally rods or staffs that increase your ability to govern the empire, or provide a limited number of magical attacks. The gathering of items is important, but the development of character levels is more so. As the Dungeon Master says, "He who has the most powerful heroes will rule Mystara."

The Lands Await

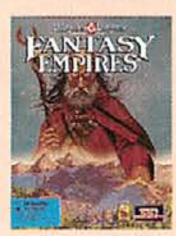
Fantasy Empires concerns itself exclusively with the surface world of Mystara, which consists of 98 different countries composed of varied terrain. You begin with a single fief in this broad domain, and you must eventually conquer the entire map to be successful. Four adversaries of comparable skill level may be selected from the extensive list of computer opponents, or generated for use by other human players on the same computer. These foes are scattered on the map, but begin with similar starting resources if they are of an equivalent level to your character. The remainder of the countries begin the game as neutrals.

Whether victorious or not, your efforts will be recorded for all time in the book of the Dungeon Master. Further, a measure of experience will be awarded based on your exploits during the campaign. The increased level that results from this has a long term affect. First, greater revenue is generated from each territory held in subsequent campaigns. Second, you will be able to challenge more capable opponents and maintain some hope of victory. The greater the power of the opposition, the more bountiful the fruits of victory. Because of the structure used for experience points, however, high level characters will take longer to attain each new increase. Expect to play many, many campaigns (at about 20-30 hours each) before you are worthy to challenge the Level 35 computer opponents.

Rapid Expansion

Regardless of starting position, there will be several neutral territories accessible from the home fief. Your initial move should be to send all heroes off on quests, then build a block of 100 of the cheapest troops possible, generally fighters. On the next turn, when these forces become available, they should march into one of the adjacent territories.

Fantasy Empires



TITLE:	Fantasy Empires
PRICE:	$59.95
SYSTEM:	IBM
REQUIREMENTS:	386-16MHz minimum, 4MB RAM, VGA graphics, 15MB hard drive space, mouse. Does not support EMS.
PROTECTION:	Documentation look up
DESIGNERS:	Denis Dyack, Rick Goertz, Scott Collie
PUBLISHER:	Strategic Simulations Inc. Sunnyvale, CA (408) 737-6800

From Those Wonderful Folks Who Gave You Gridlock, Blackouts and Runaway Taxes, Comes Raw Sewage, Yellow Journalism and the Subway at 3 a.m.

Though these are unguarded by enemy troops, between 20-80 of your forces will be lost suppressing the local populace every turn until you build a Keep. Keeps cost 7500 gold pieces, and they should be built on the turn after each country is taken to preclude unnecessary losses. As such, their cost will be the limiting factor on the rate of your expansion. Your initial treasury should be sufficient until you have four or five fiefdoms, at which point you will be somewhat self-sustaining if you limit further expansion to one country per turn.



Unfortunately, this relatively simple land grabbing cannot continue forever. Sooner or later you will encounter one or more of the other despots along a hastily constructed border. Chances are, you haven't had the opportunity to build any more armories (at 15,000 gold each) by this point because all of your money has gone into units for neutral conquest. Now is the proper time to explore some of the diplomatic options in the game. Offer a treaty for a number of turns and back it up with some cold hard cash. Most of the time, if you haven't demonstrated a willingness to break such agreements, this can keep that opponent off your back for a time—long enough for you to reinforce that border. If resources allow and neutral countries are still available on another front, continue expansion during this period to improve your power base.

Another approach is to offer aid to enemies who you are unprepared to deal with. This carries no guarantee that they won't simply plough that money back into their invasion effort, but it generally improves the way they view your kingdom. For multiple human games, this screen can also be used to type any message you want to any other player. No player but the intended recipient will see the message, so dubious rulers can use this function to pit opponents against one another, or to enter secret alliances that convey none of the restrictions of conventional treaties.

Sound The Alarm

Generally sooner than later, you will have to begin hostilities in earnest. Once these battles begin, it is very helpful to have the strong leadership of your heroes in the field. Provided you have not squandered them on quests beyond their capability, you should still have the original group, albeit much more capable than when they started.

Before continuing with an explanation of how heroes are used in battle, you must first understand how to replace those that will be lost. With the exception of Wizards and Clerics, who must have special towers built for their training, all other heroes may be trained in the armories. They cost the same amount as a unit of 20 regular troops of the same type, but they take 2-3 times longer to train. The disparity in training time is more than offset by battlefield performance. Elf heroes reload



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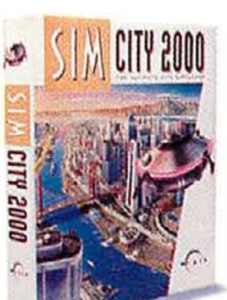
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and fire faster than the formations of archers, Fighters get in more attacks per round and do more damage per attack, and Clerics/Wizards cast powerful spells in battle that often turn the tide of events.



When combat is initiated by moving into an enemy held territory, the strategic overview map is replaced with a tactical close-up of the contested terrain. All action occurs from an overhead perspective very similar to that used by the old arcade game *Gauntlet.* Players assign a general order to all their troops, either Barrage, Harass, Assault or Retreat, and then directly control either one hero or troop formation (if no heroes are present) for the ensuing action.

Barrage is particularly effective if you have siege engines—catapults or ballista—in the battle. The latter are huge mounted crossbows that fire arrows about three meters long. These bolts are capable of killing many troops for every formation they hit. When barrage is selected, these units and all elven archers will fire at any target in range. Fighters and other ground troops will hold their position unless an enemy unit comes close to them.

Harass is similar to Barrage except it involves only archers. Assault is just as it sounds. All units commit to an all out frontal attack on the enemy position. Catapults and ballista do not advance because they are capable of hitting anything on the field without moving. All other troops move forward and, if the enemy has a castle present, battering ram units will attempt to breach the gates for the other troops.

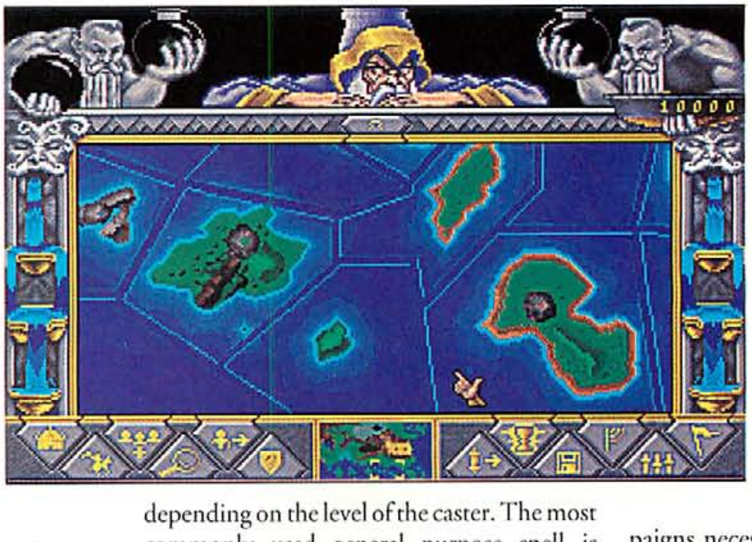
Immediately prior to a battle, or at any point during that battle, you can hit the "escape" key to have the results simulated. This will not reset any action that has occurred up to that point; if things were looking bleak when you elected to let the computer finish the battle, they will continue to do so when the final results are posted. The option is basically included for those who either prefer a purely strategic game, or don't wish to invest the time necessary to play each battle out manually.

When heroes survive a battle, they gain experience. If your regular troops survive two battles, they become veterans. At the veteran level, a unit of 20 troops is roughly equivalent to a Level 3 hero of the same class. If veteran troops survive another battle in which 60 or more of the enemy are killed, they become elite units. Elites fight and defend with the approximate skill of a Level 7 hero. Finally, troops of higher skill level are capable of killing up to 5 to 1 of their less experienced counterparts on the field of battle. The only unfortunate omission in this entire system is the inability to take surviving heroes with you into the next campaign.



That Magic Moment

Magic, regardless of whether it originates from clerics or wizards, plays a powerful part in the strategic game as well. You accumulate magical energy in three different orbs located at the top of the screen, red for mages, blue for clerics, green for druids. The orbs are blank in the beginning, then begin to glimmer faintly and finally to glow when fully charged with magical power. The rate at which the orbs fill depends on how many heroes of the appropriate type you control, and what their levels are.



When you are ready to conjure, clicking on the appropriate icon will activate a spell book. The types of spells include offensive, defensive and general purpose conjurings. An example of an offensive spell is "Death," which causes 40-70 troops in the affected region to die inexplicably. The victim of this spell would not know it's origin exactly, but if it affected one of his border provinces he might have a fairly good guess. A type of defensive spell would be "Animate Dead," which raises 30-60 undead troops in the region selected depending on the level of the caster. The most commonly used general purpose spell is "True Sight," which allows you to see the troop strength and defenses of an enemy region exactly.

The Spoils Of War

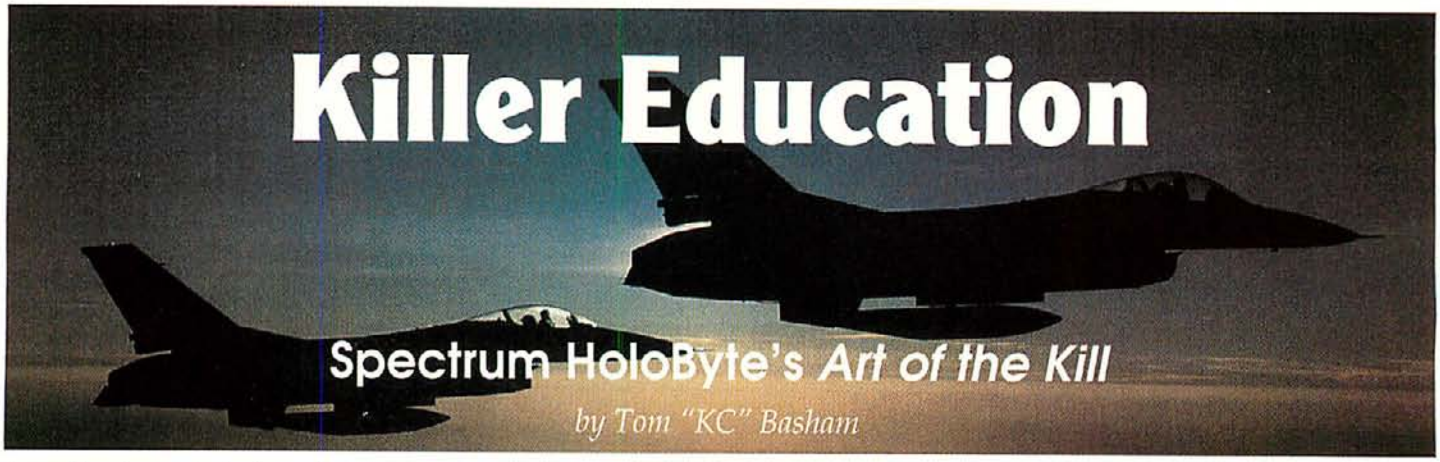
When countries are conquered, you do not benefit from the Keep the previous owner constructed. You must establish your own. You may, however, inherit inordinately large numbers of siege engines and battering rams that the computer opponents have constructed. If that happens, you are experiencing a rather major bug that will bias your progress in subsequent battles and also cause a major cash flow problem near the end of the game. SSI has a patch that corrects this. It is available on the major commercial networks, or you may call SSI directly to receive a free copy.

Aside from this correctable anomaly, *Fantasy Empires* excels at all levels. The ability to randomize the properties of the various countries keeps the game fresh through all the campaigns necessary to rise to the highest level. Further, the seamless integration of several humans and computer AI opponents is commendable. The non-obtrusive Dungeon Master acts to focus your efforts, much as a real one would do, and successfully interacts at a level "outside" of the game proper. Finally, it's much more satisfying to take a single character through a series of linked adventures than to have to begin anew with a different alter ego for every campaign. This game's ability to keep you coming back time and again is not fantasy, it's reality. **CGW**

Killer Education

Spectrum HoloByte's *Art of the Kill*

by Tom "KC" Basham



There's a saying in the military community: *Ask any two Soviet fighter pilots what they would do in a given tactical situation, and you'll get one answer back. Ask any two U.S. fighter pilots what they'd do in the same situation, and you'll get three answers back.*

The variations in tactical doctrine between the now defunct Soviet Union and the U.S. were well known. Where Soviet pilots relied more heavily on strict rules and ground controllers, their counterparts in the West emphasize tactical flexibility and individual initiative.



Colonel Handley gives a video tour of the world's finest combat aircraft.

Unfortunately for simulator pilots, the conceptual data on basic fighter mechanics (BFM) required to build tactical creativity has been hard to find. Although most manuals and after-market books for flight simulators discuss the basics of air combat, there has only been one thorough textbook widely available—Robert Shaw's *Fighter Combat: Tactics and Maneuvering.* Although an excellent book, *Fighter Combat* presents only one instructor's viewpoint. If your combat style is akin to that of the rigid Soviet's then a single approach is fine, but the independent Western spirit will seek out other voices and perspectives from which to draw their individual style.

Spectrum HoloByte's *Art of the Kill* package provides just such an alternate perspective—a view of combat tactics from the eyes of F-16 instructor pilot Pete Bonanni. Together with retired Colonel Phil Handley of the USAF (the only F-4E pilot to down a MiG-19 by cannon fire in Vietnam), Bonanni has assembled this "multimedia" instructional package which includes a 165-page textbook, a VHS video tape, and a 3.5" floppy disk containing the original *Falcon 3.0* demonstration program with a new title screen.

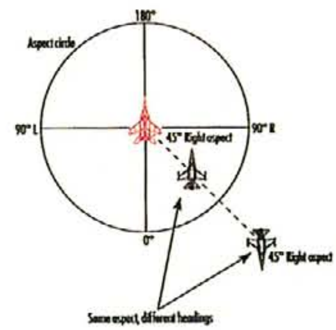
Back To School

The package works like a typical college class. The professor (in this case, Pete Bonanni) lectures to the class (via the VHS video tape) as the students follow along in the textbook. The text steps through the basics of air combat, beginning with geometry and definitions. Most chapters begin with one of Bonanni's personal flight experiences before moving into technical subjects. Two-color drawings enhance the book and illustrate many maneuvers and tactical points. After laying the ground work in the introductory chapters, the book moves into both offensive and defensive "1v1," or one versus one, engagements.

Next, the book discusses head-on encounters and how to handle neutral-pass merges. Most *Falcon 3.0* head-to-head competitions begin with a neutral pass. When the aircraft have passed each other, one party calls "fight's on" and the battle begins. Anyone who flies head-to-head *Falcon 3.0* or *Red Baron* will find the chapter on head-on tactics particularly valuable. The last chapter of the book discusses beyond visual range (BVR) encounters and intercept tactics. After a set of quizzes, the book concludes with a debrief of Handley and Smallwood's downing of a MiG-19 in Vietnam in an F-4E. The debrief includes a transcript of the fight and two-color illustrations of the maneuvers used. It makes for excellent reading.

Bringing Home The Classroom

With the accompanying VHS video tape, Pete Bonanni comes into your home and lectures to you through the VCR. On the tape, Bonanni flows through the textbook discussing the various concepts and tactics. Bonanni uses a mixture of *Falcon 3.0* VCR and real-world footage to illustrate his points. Pete is armed with two "airplanes on sticks"



for describing maneuvers, and he "writes" across your TV screen enough to rival John Madden and his electronic chalkboard. Although one can simply read the textbook, the tape gives a lot of additional insight, especially through animated illustrations. Intermixed between topics, Colonel Handley appears and talks about some of the finest combat aircraft from WWI to the present day.

Although *AOK* targets a wide audience with its broad discussions of basic air combat, Pete Bonanni approaches the topics from a technical position, using lots of jargon. Pete is lecturing to fighter pilots, not basket weavers, and speaks accordingly. While the use of jargon serves to hold the attention of the experienced sim pilot, novices may be over-

Art of the Kill



TITLE:	Art of the Kill
PRICE:	$29.95
CONTENTS:	VHS video tape, book, Falcon 3.0 demo disk (3.5")
PUBLISHER:	Spectrum HoloByte Alameda, CA (800) 695-4263

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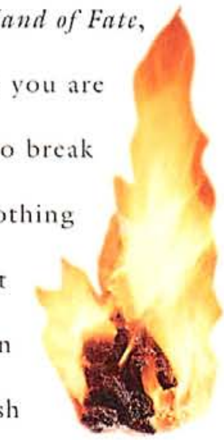
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THE HAND OF FATE

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Bonanni describes maneuvers with his jets-on-a-stick.

whelmed. It is not totally inaccesible for the novice; it will just require that they put in extra work, occasionally pausing the tape and reading the explanatory sidebar notes that appear on-screen.

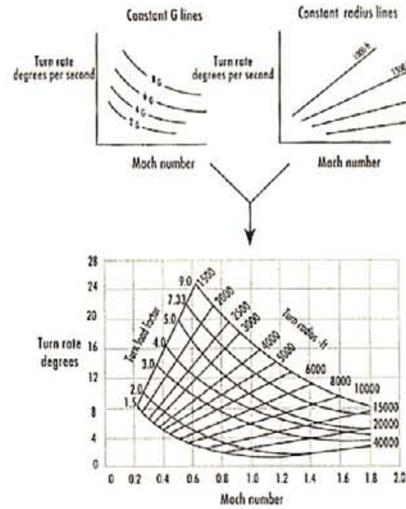
The video tape is well-made and has a polished look to it. Although the background set was not shoddily done, it does evoke a game show feel, and I almost expected Bob Barker to stroll onto the set and start bidding on an F-16. Overall, though, the tape is a quality production.

The 3.5" floppy included with the package contains only the *Falcon 3.0* demo that was originally released in May of 1991. The only discernible difference was the title screen. If you're already a *Falcon 3.0* player, consider it an extra scratch disk.

Is AOK For Me?

AOK is more than a training tool for *Falcon 3.0*. *AOK* addresses air combat from a broad point of view using *Falcon 3.0* footage to illustrate points. The tactics and concepts discussed are as valid for *Aces Over the Pacific* and other combat sims as they are for *Falcon 3.0*. Anyone interested in air combat will find *AOK* interesting.

For those who have already read *Fighter Combat: Tactics and Maneuvering* and are wondering "what more is there to learn?" the answer is: a lot! Experienced users may already be familiar with the terms and maneuvers discussed, but Bonanni gives his personal insights and preferences as well as technical definitions. Bonanni discusses situations where he prefers to keep a fight horizontal and situations where he prefers to move into the vertical. There are no solid rules of air combat that will always lead to success. Some sim pilots will immediately adopt Bonanni's preferences as their own, others will tend toward different strategies, but all will find his discussions thought provoking. *AOK* and *Fighter Combat* complement each other nicely.



In summary, *AOK* is a very interesting, entertaining and informative package applicable to all flight simulators and air combat enthusiasts out there. Users who are not well versed in the jargon and technical aspects of ACM may find *AOK* a little intimidating at first, but by replaying the tape and referring to the textbook (which includes a nice glossary), less experienced users should have little trouble following along. **CGW**

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Circle Reader Service #59

"I Came, I Played, I Conquered"



Art by Rodger MacGowan; Copyright 1993 RBM Graphics

COMPUTER WARGAMING WORLD

In this issue . . .

Empire Deluxe Tournament: A Fight to the Finish

by Alan Emrich

The results are in. From a field of 64 clever armchair generals who tried to outfox each other on an electronic field of honor, one has emerged the victor. We are pleased to announce that Henry W. Gale of Westwood, MA has won the **New World Computing**/*CGW Empire Deluxe* Tournament. Henry, the champion of America's eastern region, defeated the pride of the West, Mark R. Conder of Littleton, CO, in a best of five match.

The fruits of victory for Henry include a trip to Los Angeles to collect his prize. His sun-drenched Southern California vacation will include visits to Disneyland and Universal Studios, and tours of their neighboring tourist Meccas: the offices of New World Computing and Computer Gaming World. For Mark, the consolation prize, a set of New World Computing games, will keep him busy for a long time to come.

Making The Rounds

So how did this best of five game series evolve? How do the masters play and what might you learn from them? Read on.

The Empire Deluxe Tournament Scorecard

Best 3 of 5 Games

	Game 1	Game 2	Game 3	Game 4	Game 5
Red	Henry	Mark	Comp	Henry	Mark
Green	Mark	Henry	Mark	Comp	Comp
Blue	Comp	Comp	Henry	Mark	Henry
Winner	Mark	Mark	Henry	Henry	Henry

Table 1

Four Games To The Finals

In their first game, Mark had amazingly good fortune and rolled over Henry, who had never played Red before, but who accepted the humiliating defeat with grace. But Henry did gain something from his loss: the knowledge that Mark was a careful, conservative player. This would serve Henry later.

In game two, Mark's capital fell briefly on turn 28 and he lost a vital transport on turn 35, but he managed to sneak into Henry's capital on turn 27. The early game was wild as both sides thrust against and defended the three capitals with vigor. Mark then launched a long flank march with a second transport that Henry knew nothing about. Coming in through Dawg Bottom and Patch, Mark built up his economy enough to wrap up the game by turn 76, defeating Henry's wild blitzkrieg strategy with his conservative play. The score was Mark 2, Henry 0.



Henry Gale

In the third game, Mark felt that he could be a bit more daring and tried a heavy naval strategy, building cruisers and battleships. Opting for no economic handicaps and a triple combat handicap, Mark built his ships, but Henry's air force kept them monitored and stayed well clear of the trouble they would cause him. Building up his land forces, Henry swept across the main island and on to victory as his combat edge was thrust into the very bowels of Mark's empire. Mark's style was no match for Henry's substance, who remained clinging to life at two games to one.

Game four found Mark stunned by his defeat and still a bit shaken. Henry had tasted blood and now knew that Mark was mortal. Both sides had revenge on their minds, and this game took an epic 5 1/2 hours before Henry emerged triumphant. Mark went for the quick strike, but Henry bogged down the attacks against his capital and forced a long game. Although Mark was quick to adopt a long-term strategy, the loss of his transports forced another desperate


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thrust at Henry's capital. When it failed, it was only a matter of time before Henry could bring his numbers to bear. The count was now tied at 2-2. The final game would decide the entire match and tournament.

Game 5 — Their Finest (14!) Hours

Henry/Blue vs. Mark/Red

The final battle was an epic, 14-hour struggle. Here is an account of this fight in the player's words:

Mark: "In the final game, we must have both been thinking alike at the outset, each of us trying to avoid an early decisive encounter and, instead, opting to build up our forces by safely capturing neutral cities. This mutual caution lead up to what I think may have been one of the deciding events of the game.

"Henry and I had expanded almost evenly up to around turn 50. About then I realized that the Green computer player had not managed to take any of the cities in the Southeast region of the main continent (Essen, Sunkissed, Stealth, etc.). I further deduced that Henry would be headed for them promptly, so my plan became to beat him there.

"I began *Operation Southeast* by taking Eden Island from the Green player, figuring that if I could take Tobruk and ship some fighters in, I could stop Henry's expansion into this region and take the remaining cities there at my leisure. I attacked Tobruk hastily with only one infantry and one armor unit. This attack failed and, on the next turn, sure enough a Green transport hiding in Tobruk came out and sunk my transport. Argh!

"Because of my hasty advance, I had no backup forces. During the next ten to twenty turns, I noticed Henry had gone in and taken the entire Southeast region, just as I thought he would. Damn! I still had sizable forces, however, and was able to exact my revenge on the computer player by taking his capital on turn 85.

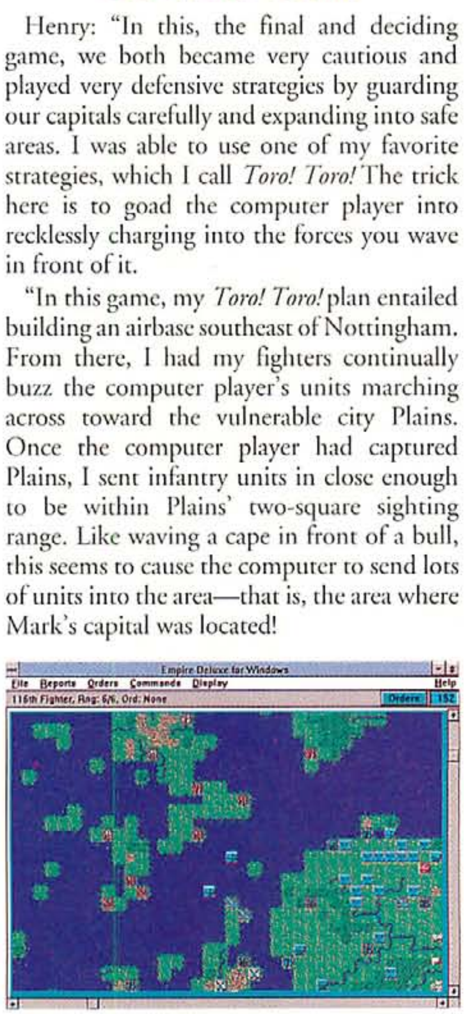
"Meanwhile, Henry was busy landing troops *en masse* on both the east and west coasts of the main continent, which lead up to an interesting sequence of events. On turn 99, Henry had four units heading towards the Green capital and had his own capital securely ringed with Armor. I had one armor unit which had managed to slip down the river toward his capital. Henry attacked it with two infantry units and both of them failed completely in their anti-tank roles. And then, for some reason, he didn't attack me with his armor. Yes, I could have won if I would have been able to blow through a single armored defender and take the capital.

"However, it was not to be. My luck crapped out on me, and after that point I was reduced to fighting a defensive battle in hopes that Henry would make a mistake and leave me an opening. Indeed, I was even aided by some good luck as my bombers had continual success against his armor, but alas... Henry stubbornly refused to make a mistake and, when he effortlessly crushed my last gasp invasion of Sipe's Site by sinking my transports (yet again) with his air force, I knew it was over. I washed, starched and ironed the white flag. I had fought the good fight, and wanted everything done properly for my formal surrender."

The Winner Recalls

Henry: "In this, the final and deciding game, we both became very cautious and played very defensive strategies by guarding our capitals carefully and expanding into safe areas. I was able to use one of my favorite strategies, which I call *Toro! Toro!* The trick here is to goad the computer player into recklessly charging into the forces you wave in front of it.

"In this game, my *Toro! Toro!* plan entailed building an airbase southeast of Nottingham. From there, I had my fighters continually buzz the computer player's units marching across toward the vulnerable city Plains. Once the computer player had captured Plains, I sent infantry units in close enough to be within Plains' two-square sighting range. Like waving a cape in front of a bull, this seems to cause the computer to send lots of units into the area—that is, the area where Mark's capital was located!



"When the computer player's Green units arrived at Plains, they seemed strongly attracted to that famous nearby 150% city known as the Red Capital. With a quiet chortle, I cautiously had my units follow right behind the Green invaders that were now only interested in Red capital. In fact, when I had inadvertently left some units adjacent to the Green forces, they didn't even bother to attack me, so focused were they on the Red capital.

"Mark, for his part, was wisely defending his Capital with a strong armored force. Consequently, my cleverly arranged 'unified command attack' with the Green forces did not capture Mark's capital. However, this and many subsequent computer player attacks there managed to keep Mark's capital garrison depleted, and his forces there distracted him from what would otherwise have been their mission of expansion. This Toro! Toro! cape-waving technique of mine also kept the computer so focused on his war with Mark that it didn't expand into the islands very much.

Game Five City Counts		
Game Turn	Mark (Red)	Henry Blue
5	3	3
10	3	4
15	4	4
20	4	5
25	7	7
31	9	9
40	10	10
50	12	12

Table 2

"Our expansion into neutral cities was very even, as is shown in Table 2. Between turn 50 and 60, however, I was able to capture the last three large neutral cities of Essen, Bonaparte, and Stealth. This gave me a total of 369% production, plus a city with a fighter production specialty, which I, naturally, crave. Of course, not having the computer in the vicinity of these cities near its own capital made capturing these last bastions all the easier.

"The major combat during this stage of the war was a huge air campaign fought on a front that encircled the entire map. Mark and I had both devoted almost half of our production to air units and built extensive networks of air bases along the coasts closest to the enemy. Both of us were trying to sink the other's transports that were reinforcing the continent or trying to capture the remaining island cities. Huge losses were suffered by turn 100, and over 60 air units had been destroyed in air-to-air combat and bombing airfields. We both knew, rightly, that if the other player could gain control of the skies, the game would be lost.

"Mark captured the last neutral island city, No Gamers Atoll, on turn 86. However, this cost him yet another transport since I was again paying close attention to neutral cities by constantly checking their production. Both Mark and I were reluctant to move our large armor away from our capitals (where they could counterattack any threat), so we both began chewing up the computer's cities with our other land forces.

"The computer player lost Eden to Mark and Tobruk to me around turn 65. Mark took Piece-of-the-Rock on turn 80 and the Green capital itself on 86. Between turns 80 and 100, in what may have been (along with the air war) the deciding attacks, I recaptured Rakowsky and Cape Trafalger and took the computer's cities of Rangerton and Turk. Next, the Green capital and the Eagle's Nest were brought under my control by committing infantry reserves that had been stationed around my capital, plus units brought in from Essen and Bonapart. With Plains and Riverton later divided between Mark's forces and my local capital defense units, the computer player was left with only Modemville and East Point.

"Having thus taken the computer player out of the game, this left me facing only Mark on a global front with me having 2452% total production, but with depleted forces, to Mark's 1931% total production and fresh hordes on around turn 110. I was confident that with my production advantage, I could send a force up to capture Mark's capital fairly quickly.

"Lightning strikes at Mark's capital with armor columns were quickly made into smoking wrecks by Mark's bombers. Combined infantry/armor attacks were crushed by these same bombers attacking my armor while Mark's armor reserves rolled over my attacking infantry. Clearly, these skillfully coordinated attacks were not working out in the teeth of Mark's prepared defense. This left me with no alternative but to prepare for the ever popular *human wave attack.*

"This proved much more difficult than I anticipated, and the production drop caused by having too many units on the board forced me to take many cities off-line. At the same time, Mark changed almost all his cities, except Skulker and his capital, to air force production. He then used these air units to try and clear a path for his transports to capture the two or three cities he would need to pull even with me in production and bring things to a firm stalemate. He also sent his planes on suicide flights to destroy my transports that were convoying my foreign hordes of infantry units to the main continent. Although Mark achieved a couple of partial kills on my transports, he also had fighters run out of fuel next to my transport twice. Unscathed when it counted, I pressed on to build up an unstoppable horde that would take Mark's capital and win the game.

"The massive air war for control of the sea lanes had, at one point, reduced me to a mere four air units of my own before new aircraft production from five additional cities kicked in and prevented Mark from sweeping me from the skies. Our combined air force losses exceeded 130 planes. To compound my losses in the aerial battle of attrition being waged, I turned back two of Mark's amphibious invasion forces trying the take Sipe's Site with heavy losses to my air force and no losses to Mark's transports. Crippled, Mark's transports limped back to their embarkation ports. I was sure that Russell would be proud of my defense of his namesake.

"Finally, on about turn 145, I accumulated what I was sure was a large enough horde to finish this war. I whipped them into a frenzy by waving my *Empire Deluxe* hat in the air and sent my swarms of infantry to clear a way for the armor that would follow them. In the process, I captured Skulker on turn 147, but Mark's armor and air units were harvesting my infantry like wheat before the gates of his capital. As my infantry horde kept shrinking, I started to wonder if I would lose them all. Would Mark be able to send an armored strike against me with his air force clearing the way to both the Green and Blue capitals? Finally, on turn 152, the last of Mark's defenders nobly died while trying to clear the squares adjacent to his capital. On my third attack directly on the capital city itself, it fell. Exhausted from our 14 hour ordeal, I claimed the victory.

Final Observations

Mark: "In conclusion, I'd like to say that Henry played a great match. His dramatic comeback from being two games down should give him a well-earned place in computer gaming history. In my humble opinion, the main difference in this game were the transport losses. I was amazed at how Henry was able to expand so quickly without ever, to my knowledge, exposing his transports to the normal range of my air. As it says in Alan Emrich's *Empire Deluxe* book, '...sinking enemy transports and protecting your own is a crucial key to victory.' Anyway, I wish to thank Henry for an enjoyable match and, especially, his easy-going style (which I think is real important in this kind of competition). Also thanks to Alan, *CGW*, New World Computing and all the other contestants. I was glad to be a part of the tournament."

The Win/Loss Record of the Final Four

Name	Win	Loss
Henry Gale	11	5
Mark Conder	7	4
Ray Matthews	8	4
Mike Kohn	5	2

Table 3

Congratulations to both of our *Empire Deluxe* Tournament finalists. It's been a great year following your exploits. CGW

The Emperor's Guide To The Galaxy

Tips, Tables, Tactics For *Master of Orion*

by Robert L. Hayes, Jr.

Master of Orion (*MOO* for short), MicroProse Software's newest strategy game, is a vastly complex simulation of the dynamics of an interstellar empire. Playing against one to five computerized opponents, your chosen race must achieve mastery of the known galaxy by strength, guile, and technological supremacy. There is no room for second place in the *MOO* cosmology, and failure is rewarded with xenocide and exile.

Generally speaking, your empire will have several conflicting goals to pursue at any one time. You will wish to expand the frontiers of your empire, whether through unoccupied space or enemy-held territory; you will need to advance technologically to maintain at least parity with your neighbors; you will need to constantly increase the total production levels of your empire in order to avoid being overwhelmed by an enemy's numerical superiority; and you will need to avoid the problem of someone else winning the game before you have a chance to.

The latter problem is often one of the most puzzling in the game, as the diplomatic functions of *MOO* are both highly important and highly opaque to the player; that is, it is difficult to assess any but the most obvious successes and failures in the diplomatic arena. Thus, we'll begin with a discussion of the diplomatic model used in *MOO* and how to exploit it.

Diplomats Have Been Recalled

Each race maintains a numerical index of how it feels towards every other race. Since from two to six races may be involved in the game, it quickly becomes difficult to unravel the twine of relationships between races. You will achieve contact with alien races whenever one of your colony worlds is within starship movement range of one of their colony worlds. If your closest pair of worlds is four parsecs distant, you will not achieve diplomatic contact with that race until one of your races reaches starship ranges of four on the technological sequence. When diplomatic contact is made, the alien race will dispatch an ambassador to your worlds, and you will be able to interact diplomatically with your new neighbor.

As soon as contact is made, check the MAP function on the control panel. In addition to your own colony worlds, you will now see the locations (though not the names, populations, etc.) of your new neighbor's planets. Check the MAP screen frequently as the game progresses; you will be able to observe your rivals' progress directly in this fashion, watching as they expand and spread their empires.



Each race begins the game more or less neutral towards one another; there are some exceptions, but generally you will have to appease or irritate a new neighbor to get a strong diplomatic leaning one way or the other. In the beginning of the game, appeasement is generally the best strategy; you are probably not ready for a war, and getting into one will simply drain resources better directed towards technology and planet development.

Your first act with a new neighbor should be to propose a trade agreement. Offer the smallest agreement allowed on the treaty menu. The reason for this lies in the nature of the trading system. Each new trade treaty starts out paying a return of -30%, reflecting the cost of setting up trade routes, establishing customs operations, etc. As time progresses, the trade treaty will increase in value, until after 40 years it will be paying a return of 100% (i.e., a trade treaty of 25 BC will pay you 25 BC per year in pure profit). New trade treaties with the same party always start with a rate of return that is averaged between the current rate and the -30% base rate. Thus, by getting a very small trade treaty up to 100%, you will lose very little money during those first few crucial years, but when you renegotiate the treaty (probably in the range of thousands of BCs per year) you will begin making a large profit. In general, always wait until your existing treaty is paying at 100% before upgrading.

When diplomatic relations with a neighbor are good, it is possible to propose non-aggression pacts and even alliances. While it may seem that an alliance is a good idea (after all, you can base at an ally's worlds and explore them all without retribution), be warned of the dangers involved. A computer ally fond of getting into wars will always expect you to join them; unfortunately, their new enemy may be your close friend, and you will be in the position of having to horribly offend one of your two allies and getting involved in a war you don't want. Thus, take General Washington's maxim to heart and beware of entangling alliances with foreign powers.

Non-aggression pacts are another matter. Unless you have plans of imminent conquest against a neighbor, take any non-aggression pact you can get. The pacts will work to boost your popularity with the other player, and can forestall wars between even natural rivals for a long time.

Sometimes, despite all your diplomatic efforts (or perhaps directly because of them, if you are a sneaky Machiavellian player) you will end up in a war. How to handle this eventuality will be covered in other sections of this article; here we will discuss how to end a war once it has begun. Generally when a war starts, your new enemy withdraws his or her ambassador and you are left with no means to communicate with them; thus you are going to have to fight for at least a few turns. However, the ambassador will return after a few years, and you can attempt to patch things up. The better you have been doing in the war (with success defined by killing population, destroying ships, capturing colony worlds, and avoiding those things happening to your own empire), the more likely your erstwhile enemy is to accept the olive branch. If he is doing well, it may be necessary to bribe him copiously with technology and money in order to bring him to the peace table; consider this carefully, as giving a computer opponent the wrong piece of vital technology can dras-

tically change the balance of power. Once peace does break out, rejoice: you have a guaranteed grace period during which this computer player CANNOT attack you (unless you go and attack him first, of course). This is a lifesaver in many critical early-game situations where a few turns is all that you need to get and keep the upper hand. The exact duration of this "Pax MOO" is random, but will always be from 8 to 16 turns. Note that an attack on the computer player during the grace period will have grave diplomatic consequences; even though you don't know when the grace period expires, to attack during it is considered the height of infamous and evil behavior. Due to the inertia factor, you may have ships already en route to a computer player's worlds when peace is declared. You may want to consider scrapping the ship class(es) of the offending armada in order to forestall this diplomatic fiasco. (Alternately, simply refrain from going about peace mongering when you have invasion fleets en route). The computer player's fleets will automatically "bounce" out of your systems during the grace period; it may look like an enormous armada is en route to your homeworld during the grace period, but rest assured they will return without firing a shot.

By and large, the most effective tool you have for influencing the computer player's reaction to you is tribute. Everybody loves to be sucked up to, and the computer emperors of *MOO* are no exception. Offering financial tribute will improve your relations somewhat, but unless you are extremely wealthy you will have a hard time keeping someone friendly with money alone. Technology transfers are the cost-effective method of enhancing your relations with another race. Unfortunately, giving other races technology can put them on a fast track to success, allowing them to catch up to you or even surpass you in the research arena. There is, however, an escape from this problem. The computer player does not care what technology you give it as tribute: it is equally happy with Improved Terraforming +10 or Death Ray technology. By using the list of technology owned by the computer player, you can grant him technologies which he has already exceeded (i.e., Terraforming +20 if he has +30 already). This will make him just as happy as if you had given him something useful, and won't assist his material position at all.

Spies are useful tools in any empire's bag of tricks; yours should always be busy. It is exceptionally difficult to infiltrate spies into a race with a higher computer technology than your own, so if spying is a major part of your empire's activities, then it is crucial to maintain a strong computer technology lead over your victims. A strong computer technology also greatly increases your internal security level and can foil enemy spies without your having to spend vital resources on such mundane tasks.

Playing one computer player against another is an excellent method of ensuring a peaceful relationship with both. Be careful not to ally with either power, as you will be dragged into their internecine conflict and will have a hard time escaping from the trap. One advantage of attacking a computer player with a lot of enemies is that your campaigns against that player will result in diplomatic friendliness from their enemies; sometimes they will even offer you cash or technology to carry out the war you had been planning on anyway!

We're In The Money

The development of your colony planets is one of the most important aspects of *MOO;* your production level factors into every other aspect of the game. At the same time, an over-investment in your production can lead to falling behind in the technology race, with disastrous results. Although your empire may be able to build far more ships than your enemy, his ships will be so far superior to your own that your navy will be helpless.



When first starting out, industrial production tends to take second place to the need for building colony ships, scouts and the technology to allow your ships to penetrate further into the galaxy than the inadequate three parsec range you begin with. Do not eliminate industrial production entirely, however; always try to build at least one or two factories per turn. Once your industry level reaches the MAX level (where you can still build factories but don't have the population to man them), cut back somewhat and build only enough factories to ensure that each turn's population growth has enough additional capacity to work with that no production value is lost to inefficiency.

New colonies ordinarily should be allowed to develop industry at the maximum rate until the MAX level is reached. Sometimes, however, on rich worlds with small population bases, it will be more productive to terraform the world first (once the appropriate technology is reached) rather than build the relatively paltry number of factories the world will be able to support at first.

Seeking Out New Worlds

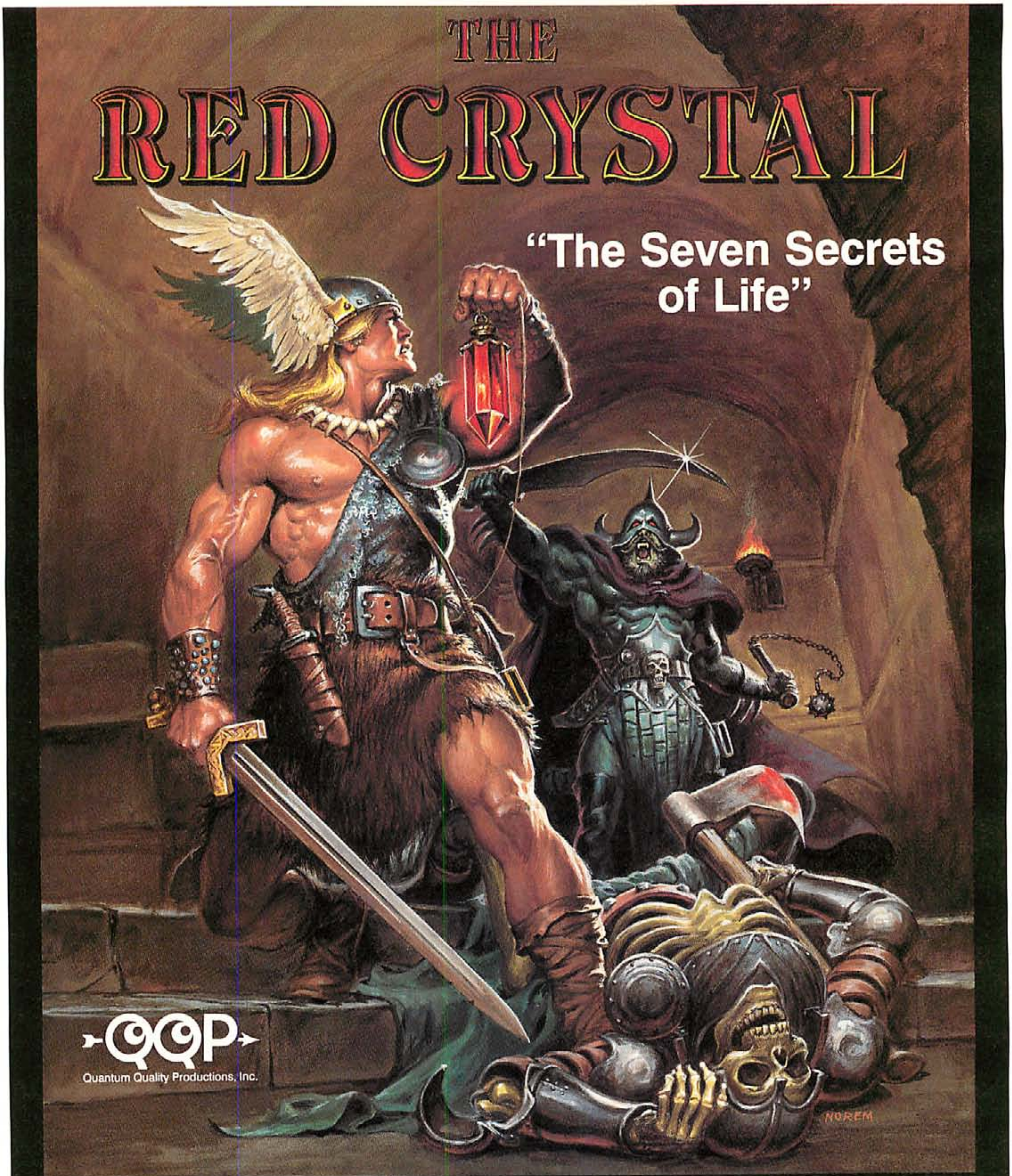
In the beginning of the game, it is highly important to get ships to every star within your reach. One highly viable strategy is to leave scout ships orbiting their newly-discovered worlds; this ensures that computer explorers will not get data on those worlds until they send an armed force to chase your fleets away, as the computer player always retreats if its ships are not armed, regardless of whether your "garrison" ships are armed or not. Scouts are exceedingly inexpensive, and a "scout blanket" to cover every reachable world can be achieved very early in the game. This maximizes your chances for finding those all-important Artifact worlds, with the concomitant chance of finding free high-level technology; such early world discoveries can make an unviable position suddenly almost overwhelmingly strong. An empire of mine once found Nuclear Engines and Range 5 technology on turns 2 and 3 of the game. Needless to say, my colonizing efforts were somewhat more successful than those of my neighbors, and I was able to enter the middle game with a commanding lead in planets and production.

In later stages of the game, particularly with the development of the Advanced Space Scanner, scouting becomes far less important. The scanner will provide you with data on all stars within 9 parsecs of your colony planets, which is more than enough information to plan your military campaigns or next expansion.

To War, To War!

The combat system of *MOO* is highly complex, with literally thousands of different weapons and equipment combinations possible. Oftentimes you will find yourself constructing starships specifically designed to fight the fleet of one particular computer enemy. This is a valid tactic, but be careful not to overproduce such specialized ships, lest your other enemies attack and find your starfleet to be incapable of fighting them effectively. Some special technology is highly worthwhile: Black Hole Generators, Repulsor Beams and High Range Focii in particular are well worth placing on any starship capable of using them. Other technology, such as Warp Dissipators and Ion Stream Projectors, have marginal uses, but are not really cost-effective in the long run.

As far as the regular weapons load for a fighting starship is concerned, Table 1 pro-



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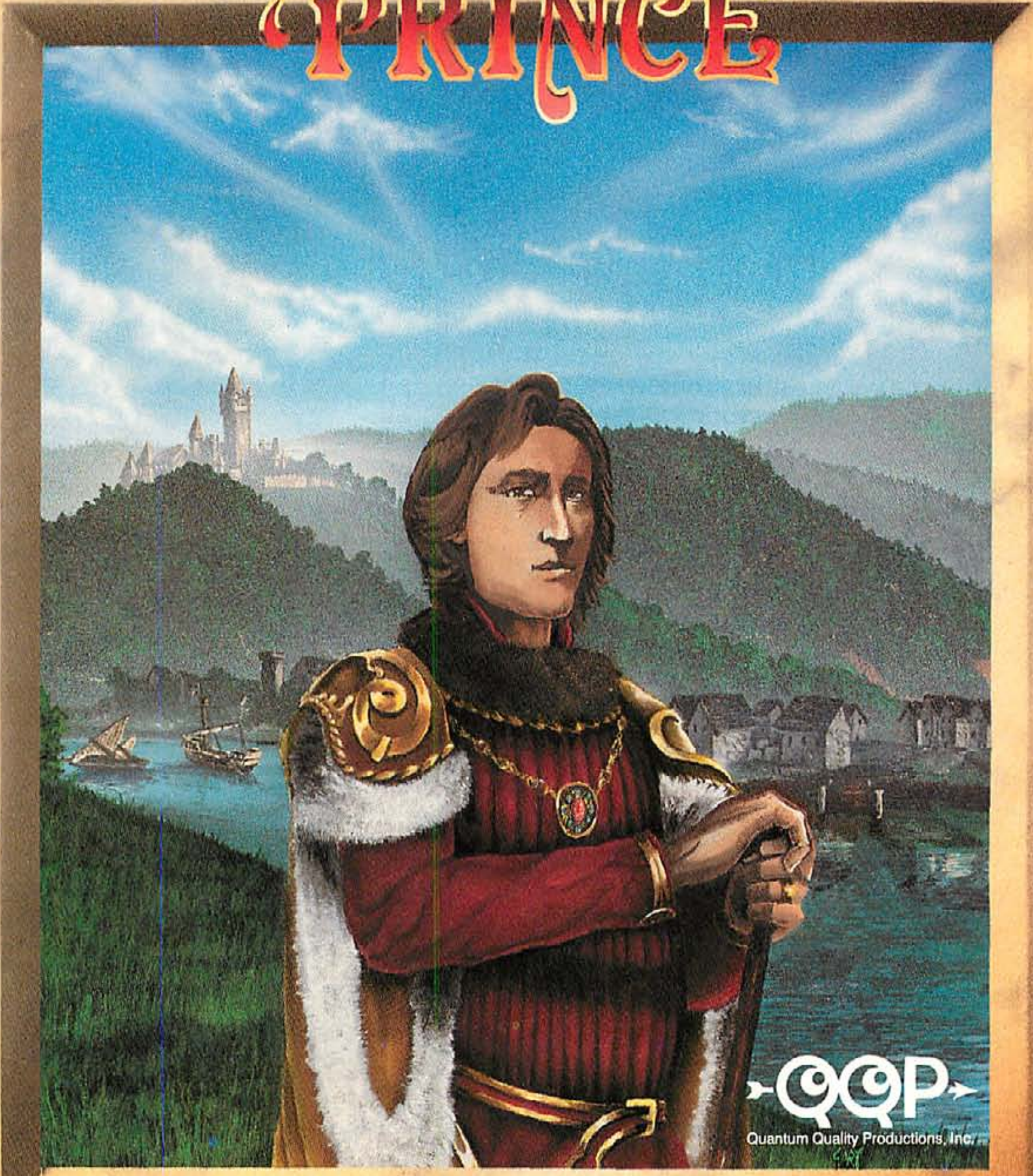
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vides useful information regarding the relative strengths of the various weapon systems that you can build. Where the average damage vs. a given shield class is negative, this means that usually the weapon will do no damage. If the maximum damage vs. a shield class is also negative, then that weapon can NEVER damage a ship equipped with the appropriate screen technology; such weapons



are simply a waste of BCs if your enemy has achieved (and is using) that level of shield tech. Some weapons, notably the Megabolt Cannon, have special "to-hit" modifiers that make them more attractive than the table would suggest. It is almost impossible to include all the different mechanisms by which weapons function in *MOO*, and Table 1 should be taken as a general guideline, not as gospel truth. The average damage per cost and size columns assume that the weapon is not being entirely or mostly obviated by enemy shielding.

Table 2 demonstrates how rapidly weapon technology miniaturizes. While a weapon at Tech 20 may be greatly superior to its Tech 10 counterpart, the ability to carry twice as many Tech 10 weapons may make the older guns worthwhile, especially when fighting opponents who have a significant technological disadvantage.

The proper fleet design and composition changes drastically as the game goes on and as your war aims change. Generally, at the beginning of the game you are more concerned with defending your worlds against enemy attack than you are with carrying the war to the enemy; emphasize small fighters with high computer levels and good maneuverability. Once you go on the offensive, ground attack becomes much more important, and bombs begin to have a place in your fleet arsenal. There are two schools of thought regarding the use of bombers. Some people prefer to build fleets of general purpose ships capable of fighting against both enemy ships and missile bases, while others build special-role ships and deploy them together. I have experimented with both techniques and have found that neither method is greatly superior to the other. General-purpose ships are somewhat less efficient but are significantly more flexible, while a specialized fleet gives more bang for the buck, while making the timing of fleet movements much more problematic. It is a decision best left to the playing style of the individual emperor. The computer players tend towards building special-purpose ships, but not overwhelmingly so.

Note that the computer players are not entirely dim: if you begin building fleets of specialized ships designed to defeat their current designs, they will alter those designs and surprise you, often with unpleasant results. Vary your own designs from time to time, especially as technological advances allow you to enhance ships' capabilities.

Ground combat is an interesting phenomena in *MOO;* while it costs you population in casualties, you tend to capture large numbers of intact enemy factories and can even steal technology from the conquered world's former owner. It is possible to mathematically predict the winner of a ground battle involving forces of equal size. The side with the larger technological advantage (ranging from +10% to +120%) has a chance of winning a ground combat (with equal numbers) equal to the formula—0.5 + b - (b-squared/2)—where "b" is the net technological bonus of the higher-tech side expressed decimally (i.e., a net +40 bonus means b = 0.4). Thus, the side with a tech advantage of 10% in a given fight would have a chance of 0.5 + 0.1 - (0.1 x 0.1 2), or 0.595, i.e. at 59.5% chance of winning. It is possible to predict the winner in a contest of unequal size, but the equation is extremely unwieldy and would require far more work than the result would warrant; after a few games it becomes clear roughly how many troops you need to win a given battle.

Tech Warriors

How to direct your technical efforts is possibly the most difficult single question to address for the budding *MOO* conqueror. An overemphasis in any one field can yield remarkable dividends, but it can leave your empire vulnerable to being overtaken in other areas. In general, I have found a relatively balanced approach, taking into account the research strengths and weaknesses of the various races, to be the best way of going about things. This keeps your technology from growing absurd (i.e., laser-equipped Warp 10 dreadnoughts with Mark XV force fields) and means that you are generally in the same ballpark as the computer players, assuming similar investment levels. At times, however, an all-out research effort in one field for a short period of time can boost your fortunes, especially if you are facing a crushing deficit in one important area. The bonuses received

Frequently Asked Questions From New *MOO* Players

Like its spiritual father, *Civilization, Master of Orion* is a complex game with many features and play subtleties. As a result of this richness, the new player can be overwhelmed and overlook some of the most basic game options. The following is a quick run-down of the most common oversights and confusing elements that confront new *MOO* players. Using these as a launch pad, you will be well on your way to exploring the deeper strategic issues discussed in this guide.

How do I send my ships to another planet?

Select one of your ship icons in orbit around a planet. The right panel will display which ships are in orbit around that world. Use the arrow buttons by each ship type to change the number of ships you will send. Choose a destination planet for your fleet, then select the ACCEPT button. See page 16 of the manual for more information.

How do I create a new colony?

Send a colony ship there (i.e. a ship equipped with a special colony base device). If the planet is habitable (see pages 17-18 of the manual), you will automatically be asked if you want to land and establish a colony there. Your colony ship is disassembled and its parts used to establish the colony. Once you have set up your colony base, you should immediately transport more colonists to that planet to help it grow more quickly.

How do I TRANSport my colonists to another planet?

Select the planet you wish to transport your people FROM. Select the TRANS button from the panel on the right, then select the planet you wish to send your people to. After you have chosen the destination planet, you can use the slider bar on the right panel to decide how many people you want to send, up to half the population of your source planet. Note that you cannot send people to a planet that has not yet established a colony base, and you cannot transport to a planet you have not yet explored.

If you are sending transports to an enemy colony, use the same procedure. The people you send to an enemy world are automatically armed with the latest technology for ground combat. Note that en-



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emy ships and missile bases can destroy your transports before they can land. This combat happens automatically when your transports arrive at their target world, and you see only the results. For more information, see pages 20 and 60 of the manual.

Why can't my colony ships travel as far as my scouts do?

Your scouts are equipped with a special device called "Reserve Fuel Tanks" that let them travel to planets 3 parsecs farther away than your other ships can. At the start of the game, your scouts can reach any star within six parsecs of any of your colonies, but your other ships can only reach planets 3 parsecs away.

Note that when you are moving ships from one planet to another, all that matters is how far the destination star is from the nearest friendly colony. Your ships do not actually stop at one of your colonies to refuel.

How do I change the destination of my fleets in space?

At the start of the game, once your ships have left orbit to go to another planet, their destination cannot be changed. If you change your mind during the same turn you gave orders, you can select the ship icon in orbit at the LEFT of the planet, and direct it to a new planet or back to its original planet. Once you develop Hyperspace Communications (34th level Computer Technology), you can change the orders of any ships en route to other planets at any time.

I just signed a Non-Aggression Pact with another race, and he attacked my planet the very next turn. What gives?

Just like you, the other races cannot change the orders of their ships and transports en route. The attacking forces were probably sent to your planet before the pact was signed, and did not know that you are now on friendly terms.

I just got the technology for Controlled Barren (or Tundra, Inferno, etc.) Landings. Why can't my colony ships land on those planets now?

Once you discover the technology for landing on a hostile planet type, you must design a new type of colony ship with the special base device for landing on that environment. However, that new type of colony transport can also land on any less hostile planet. For instance, a ship equipped to land on inferno planets can also colonize dead, tundra, barren and standard planet types.

How do I conquer an enemy's planet?

You do not need to send a colony ship. You just transport enough people to that planet to defeat the populace there and capture their colony. However, since missile bases and enemy ships in orbit can destroy transports before they land, we recommend that you send battle fleets to your target planet first, to eliminate any threat to your transports.

What does RELOC do?

The RELOC button lets you automatically send the ships that one planet builds to another planet. This is useful to assemble your fleets at one common staging point. To RELOCate your ships' destination, select the RELOC button, then select the planet you wish to send your completed ships to. A blue line will appear, connecting the worlds. To cancel the RELOCation, select the RELOC button, then select the same source planet as the "destination" (i.e. relocating your ships to where they started).

Can I refit my existing ships to use new technologies?

No. If you wish to equip ships with new technologies, you have to design a new class of ship to use them. If you already have six classes in use, you may have to make a tough choice to scrap some older ship types to make room for the new design.

What is this Guardian thing that keeps destroying my ships?

Legends hold that the Ancient Ones built terrible automated war machines to protect Orion from invaders. So, if you find a planet protected by The Guardian, you have probably found Orion. Needless to say, you will need a large fleet with advanced technology before you can defeat the Guardian, and capture Orion.

Why can I research some high level technology, when I did not get a choice to discover lower level advances? For instance, I can research "Deuterium Fuel Cells (Range 5)", but I never got to choose "Hydrogen Fuel Cells (Range 4)"?

The technologies that your scientists can research are partially based on random chance (the muse of scientific inspiration is fickle). If you cannot research a particular device, you may have to acquire it through espionage or diplomatic exchange. You can also get new technology by capturing enemy planets, provided that you have left some of their factories intact. The more factories, the greater chance of finding technology.

When does the High Council meet?

Once two-thirds of the planets in the galaxy have been colonized (not one-half, as stated in the manual), the High Council will have its first meeting. After that, it will meet every 25 years, on the years that are even multiples of 25 (i.e. 2400, 2425, 2450, etc.)

[This information was provided by MicroProse from their Version 1.2 Technical Supplement.]

for continual research on devices is very significant, however, accounting for as much as a doubling of your effective research points. If you are drastically behind in a field, often-

Table 2 - Cost/Size

Tech Levels Above	Percentage of Original Cost/Size Required
10	50.00
20	25.00
30	12.50
40	6.25
50	3.13
60	1.56
70	0.78
80	0.39
90	0.20

times judicious spying has better overall effects on the technological picture than a crash research program.

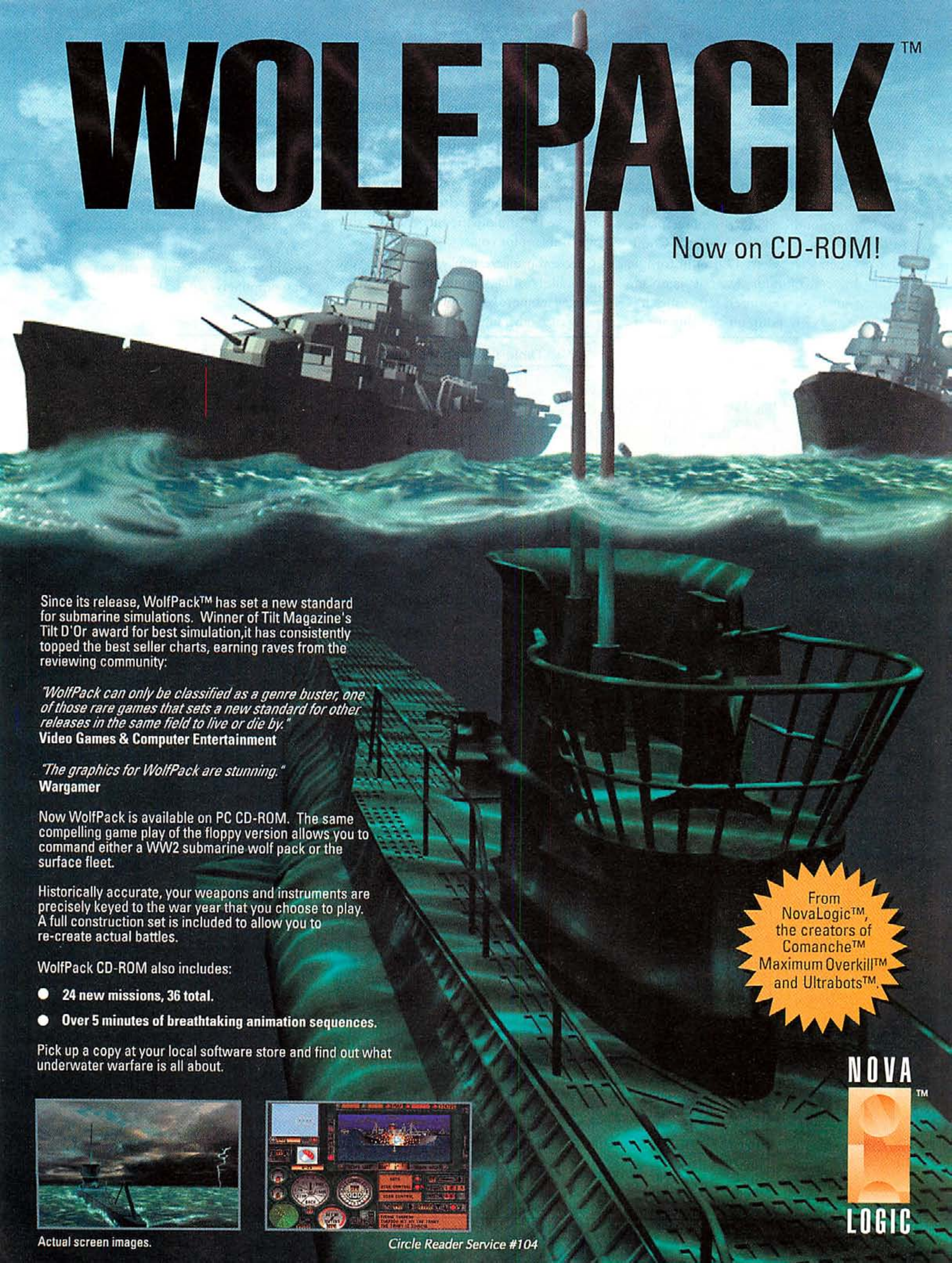
Putting It All Together

Every game of *MOO* is different. The combinations of racial strengths and weaknesses alone ensure that, even if the map was not infinitely variable as well. Following are some general guidelines that can be followed, but remember that flexibility of planning is possibly the most important attribute of a good *MOO* strategy.

In the beginning of the game, concentrate on expanding your empire as much as possible rather than on attaining a technological lead or beating up on your neighbors. If you lose a world or two to enemy action, don't retool for a major war unless it seems like the computer player is gunning for you on a permanent basis; expand in other directions instead.

Once your empire is of a reasonable size, consider a consolidation period in which you make these "core worlds" highly productive and strongly defended. This allows you to conduct intensive research and attain the technological edge so important to winning major wars of expansion.

When you are ready to expand, pick an enemy (if you don't already have at least one) and commence pounding. If at all possible, pick an enemy who is technically your inferior and/or who already has other player enemies who will like you better for beating up on your chosen victim. Sometimes, especially if the game is in danger of an early win by a computer player, you will have to attack someone stronger than you are instead of absorbing a weak neighbor. In these cases, flexibility of movement and diplomatic agility are the keys to victory rather than superior fleet strength or technological leads. Hit your enemy where he is not; take a few worlds quickly, then ask for peace before his counteroffensive can really take shape. Use your


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grace periods to build up and defend the newly-captured worlds as well as to strengthen your starfleet. When ready, renew the offensive and hopefully catch your opponent napping for a second time; repeat as needed.

The greatest danger in the higher-level games is not that you will be conquered, but that some smooth-talking computer player will buy or borrow enough votes at the Council to get themselves elected Dictator for Life (with the concomitant war of genocide against your hapless empire); sometimes it is necessary to really pour on the diplomatic juice to keep those other computer players out of the leaders' camp and prolong the game until YOU are the leader.

Avoid genocide; it greatly irritates the other players. This goes double for biological warfare. Let your helpless enemy keep his last, forlorn planet; someone else will take him out (and take the diplomatic hit) and will solve your problem for you.

Choose your allies carefully. Avoid allying with anyone likely to drag you into a pointless war. Use trade and tribute to keep your opponents sparring against each other instead of against you.

MOO is a game which has a lot to offer players of widely varying playing styles and preferences; find the style which suits you and work with it. Don't give up just because it seems the game is unbeatable. You will find with practice that situations which once seemed to call for a quick three-fingered salute are child's play once you have a feel for the underlying mechanisms of the game.

Anyone interested in discussing *MOO* should feel free to send e-mail to the author on CompuServe at 70314,2302. **CGW**

Table 1 - Weapons Data

	Average Damage Vs.				Maximum Damage Vs.				Average Damage		
Weapon Name	Shield 0	Shield 5	Shield 10	Shield 15	Shield 0	Shield 5	Shield 10	Shield 15	Per Cost	Per Size	Per Power
Laser	2.50	-2.50	-7.50	-12.50	4.00	-1.00	-6.00	-11.00	0.83	0.25	0.08
Heavy Laser	4.00	-1.00	-6.00	-11.00	7.00	2.00	-3.00	-8.00	0.44	0.13	0.04
Gatling Laser	10.00	-10.00	-30.00	-50.00	16.00	-4.00	-24.00	-44.00	1.11	0.50	0.14
Neutron Pellet Gun	3.50	1.00	-1.50	-4.00	5.00	2.50	0.00	-2.50	1.17	0.23	0.14
Ion Cannon	5.50	0.50	-4.50	-9.50	8.00	3.00	-2.00	-7.00	1.38	0.37	0.16
Heavy Ion Cannon	9.00	4.00	-1.00	-6.00	15.00	10.00	5.00	0.00	0.82	0.20	0.09
Mass Driver	6.50	4.00	1.50	-1.00	8.00	5.50	3.00	0.50	0.72	0.12	0.13
Neutron Blaster	7.50	2.50	-2.50	-7.50	12.00	7.00	2.00	-3.00	1.25	0.38	0.13
Heavy Blast Cannon	13.50	8.50	3.50	-1.50	24.00	19.00	14.00	9.00	0.75	0.23	0.08
Graviton Beam	8.00	3.00	-2.00	-7.00	15.00	10.00	5.00	0.00	1.33	0.27	0.13
Hard Beam	10.00	7.50	5.00	2.50	12.00	9.50	7.00	4.50	0.83	0.20	0.10
Fusion Beam	10.00	5.00	0.00	-5.00	16.00	11.00	6.00	1.00	1.43	0.50	0.13
Heavy Fusion Beam	17.00	12.00	7.00	2.00	30.00	25.00	20.00	15.00	0.81	0.28	0.08
Megabolt Cannon	11.00	6.00	1.00	-4.00	20.00	15.00	10.00	5.00	1.38	0.37	0.17
Phasor	12.50	7.50	2.50	-2.50	20.00	15.00	10.00	5.00	1.39	0.63	0.14
Heavy Phasor	22.50	17.50	12.50	7.50	40.00	35.00	30.00	25.00	0.87	0.38	0.08
Auto Blaster	30.00	15.00	0.00	-15.00	48.00	33.00	18.00	3.00	2.14	1.00	0.40
Tachyon Beam	13.00	8.00	3.00	-2.00	25.00	20.00	15.00	10.00	1.44	0.43	0.16
Gauss Autocannon	34.00	24.00	14.00	4.00	40.00	30.00	20.00	10.00	1.21	0.32	0.32
Particle Beam	15.00	10.00	5.00	0.00	20.00	15.00	10.00	5.00	1.00	0.17	0.20
Plasma Cannon	18.00	13.00	8.00	3.00	30.00	25.00	20.00	15.00	1.50	0.60	0.16
Disruptor	25.00	20.00	15.00	10.00	40.00	35.00	30.00	25.00	1.19	0.36	0.16
Pulse Phasor	37.50	22.50	7.50	-7.50	60.00	45.00	30.00	15.00	1.50	0.94	0.31
Tri-Focus Plasma	35.00	30.00	25.00	20.00	50.00	45.00	40.00	35.00	1.40	0.50	0.19
Stellar Converter	90.00	70.00	50.00	30.00	140.00	120.00	100.00	80.00	1.80	0.45	0.30
Mauler Device	60.00	55.00	50.00	45.00	100.00	95.00	90.00	85.00	1.09	0.40	0.17
Nuclear Bomb	7.50	2.50	-2.50	-7.50	12.00	7.00	2.00	-3.00	2.50	0.30	NA
Fusion Bomb	12.50	7.50	2.50	-2.50	20.00	15.00	10.00	5.00	3.13	0.83	NA
Death Spores	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.10	0.02	NA
Antimatter Bomb	25.00	20.00	15.00	10.00	40.00	35.00	30.00	25.00	5.00	0.50	NA
Omega-V Bomb	35.00	30.00	25.00	20.00	50.00	45.00	40.00	35.00	4.38	0.47	NA
Doom Virus	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	0.13	0.02	NA
Neutronium Bomb	55.00	50.00	45.00	40.00	70.00	65.00	60.00	55.00	5.50	0.61	NA
Bio Terminator	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	0.15	0.02	NA
Nuclear Missile	4.00	-1.00	-6.00	-11.00	4.00	-1.00	-6.00	-11.00	0.57	0.08	0.20
Hyper-V Rocket	6.00	1.00	-4.00	-9.00	6.00	1.00	-4.00	-9.00	0.67	0.09	0.30
Hyper-X Rocket	8.00	3.00	-2.00	-7.00	8.00	3.00	-2.00	-7.00	0.67	0.08	0.40
Scatter V Rocket	30.00	5.00	-20.00	-45.00	30.00	5.00	-20.00	-45.00	1.67	0.26	0.50
Merculite Missile	10.00	5.00	0.00	-5.00	10.00	5.00	0.00	-5.00	0.77	0.10	0.50
Stinger Missile	15.00	10.00	5.00	0.00	15.00	10.00	5.00	0.00	0.79	0.10	0.50
Antimatter Torpedo	30.00	25.00	20.00	15.00	30.00	25.00	20.00	15.00	1.00	0.40	0.10
Scatter VII Missile	70.00	35.00	0.00	-35.00	70.00	35.00	0.00	-35.00	2.50	0.30	1.40
Pulson Missile	20.00	15.00	10.00	5.00	20.00	15.00	10.00	5.00	1.00	0.13	0.50
Hercular Missile	25.00	20.00	15.00	10.00	25.00	20.00	15.00	10.00	0.96	0.11	0.63
Hellfire Torpedo	100.00	80.00	60.00	40.00	100.00	80.00	60.00	40.00	2.00	0.67	0.29
Zeon Missile	30.00	25.00	20.00	15.00	30.00	25.00	20.00	15.00	1.00	0.12	0.60
Proton Torpedo	60.00	55.00	50.00	45.00	60.00	55.00	50.00	45.00	1.20	0.60	0.15
Scatter X Missile	150.00	100.00	50.00	0.00	150.00	100.00	50.00	0.00	5.00	0.60	3.00
Plasma Torpedo	150.00	145.00	140.00	135.00	150.00	145.00	140.00	135.00	1.00	1.00	0.33



Master of Orion Technology Game Aid

by Alan Emrich and Tom Hughes, Jr.

This game aid presents the Technology Screen summary descriptions of everything that can be researched. We've enhanced the descriptions with a few of our own notes and corrected many errors. These descriptions are divided by technological category. The number on the left of each item's name is its base technology level.

Computer Technology

1 **Battle Scanner:** Reveals technical specifications of enemy spacecraft in combat and increases Attack Level by +1 and Initiative by +3.

1 **Battle Computer Mark I:** Increases weapon accuracy to level 1.

2 **ECM Jammer Mark I:** Adds 1 level to defense against enemy missile attacks.

4 **Deep Space Scanner:** Detects enemy ships up to 5 parsecs away from your colonies and 1 parsec away from your ships. The cost is free to all friendly colonies.

5 **Battle Computer Mark II:** Increases weapon accuracy to level 2.

7 **ECM Jammer Mark II :** Adds 2 levels to defense against enemy missile attacks.

8 **Improved Robotic Controls III:** Allows up to three factories to be operated per population. The refit cost to upgrade to Robotic Controls III is half of the standard cost of each factory.

10 **Battle Computer Mark III:** Increases weapon accuracy to level 3.

12 **ECM Jammer Mark III:** Adds 3 levels to defense against enemy missile attacks.

13 **Improved Space Scanner:** Detects enemy ships up to 7 parsecs away from your colonies and 2 parsecs away from your ships. Enemy destinations and ETAs can also be accurately determined. The cost is free to all friendly colonies.

15 **Battle Computer Mark IV:** Increases weapon accuracy to level 4.

17 **ECM Jammer Mark IV:** Adds 4 levels to defense against enemy missile attacks.

18 **Improved Robotic Controls IV:** Allows up to four factories to be operated per population. The refit cost to upgrade to Robotic Controls IV is the standard cost of each factory.

20 **Battle Computer Mark V:** Increases weapon accuracy to level 5.

22 **ECM Jammer Mark V:** Adds 5 levels to defense against enemy missile attacks.

23 **Advanced Space Scanner:** Allows exploration of planets from colony bases up to 9 parsecs away and detects enemy ships up to 3 parsecs away from your ships. The cost is free to all friendly colonies.

25 **Battle Computer Mark VI:** Increases weapon accuracy to level 6.

27 **ECM Jammer Mark VI:** Adds 6 levels to defense against enemy missile attacks.

28 **Improved Robotic Controls V:** Allows up to five factories to be operated per population. The refit cost to upgrade to Robotic Controls V is one and a half times the standard cost of each factory.

30 **Battle Computer Mark VII:** Increases weapon accuracy to level 7.

32 **ECM Jammer Mark VII:** Adds 7 levels to defense against enemy missile attacks.

34 **Hyperspace Communications:** Allows you to communicate with ships and transports in hyperspace, and change their destinations while en route.

35 **Battle Computer Mark VIII:** Increases weapon accuracy to level 8.

37 **ECM Jammer Mark VIII:** Adds 8 levels to defense against enemy missile attacks.

38 **Improved Robotic Controls VI:** Allows up to six factories to be operated per population. The refit cost to upgrade to Robotic Controls VI is twice the standard cost of each factory.

40 **Battle Computer Mark IX:** Increases weapon accuracy to level 9.

42 **ECM Jammer Mark IX:** Adds 9 levels to defense against enemy missile attacks.

45 **Battle Computer Mark X:** Increases weapon accuracy to level 10.

46 **Oracle Interface:** Coordinates all beam weapon attacks into one simultaneous burst of concentrated fire, halving the enemy's shield strength.

47 **ECM Jammer Mark X:** Adds 10 levels to defense against enemy missile attacks.

48 **Improved Robotic Controls VII:** Allows up to seven factories to be operated per population. The refit cost to upgrade to Robotic Controls VII is 2.5 times the standard cost of each factory.

49 **Technology Nullifier:** Scrambles enemy Battle Computers and ECM, reducing them each, separately, from 2-6 levels (averaging 4) every time the nullifier hits them. This weapon has a range of 4 spaces.

50 **Battle Computer Mark XI:** Increases weapon accuracy to level 11.

Construction Technology

1 **Reserve Fuel Tanks:** Extends the range of a ship by an additional 3 parsecs.

3 **Improved Industrial Tech 9:** Reduces factory construction costs to 9 BC each.

5 **Reduced Industrial Waste 80%:** Decreases factory pollution levels to 80% of the normal rate.

8 **Improved Industrial Tech 8:** Reduces factory construction costs to 8 BC each.

10 **Duralloy Armor:** Increases the hit points of ships and transports by 50%. Personal combat armor is also enhanced, adding 5 to all ground attacks.

11 **Battle Suits:** Armor that not only protects but also boosts strength. Adds 10 to all ground combat rolls.

13 **Improved Industrial Tech 7:** Reduces factory construction costs to 7 BC each.

14 **Automated Repair System:** Damaged ships can repair up to 15% of their total hit points at the end of each turn in battle.

15 **Reduced Industrial Waste 60%:** Decreases factory pollution levels to 60% of the normal rate.

17 **Zortium Armor:** Increases the hit points of ships and transports by 100%. Personal combat armor is also enhanced, adding 10 to all ground attacks.

18 **Improved Industrial Tech 6:** Reduces factory construction costs to 6 BC each.

23 **Improved Industrial Tech 5:** Reduces factory construction costs to 5 BC each.

24 **Armored Exoskeleton:** Advanced mobile suits that not only boost power and increase defenses, but also offer limited flight to ground troops. Adds 20 to all ground combat rolls.

25 **Reduced Industrial Waste 40%:** Decreases factory pollution levels to 40% of the normal rate.

26 **Andrium Armor:** Increases the hit points of ships and transports by 150%. Personal combat armor is also enhanced, adding 15 to all ground attacks.

28 **Improved Industrial Tech 4:** Reduces factory construction costs to 4 BC each.

33 **Improved Industrial Tech 3:** Reduces factory construction costs to 3 BC each.

34 **Tritanium Armor:** Increases the hit points of ships and transports by 200%. Personal combat armor is also enhanced, adding 20 to all ground attacks.

35 **Reduced Industrial Waste 20%:** Decreases factory pollution levels to 20% of the normal rate.

36 **Advanced Damage Control:** Damaged ships can repair up to 30% of their total hit points at the end of each turn in battle.

38 **Improved Industrial Tech 2:** Reduces factory construction costs to 2 BC each.

40 **Powered Armor:** Combines high mobility, anti-grav flight, and heavy armored plating to form the most advanced armor available for ground troops. Adds 30 to all ground combat rolls.

42 **Adamantium Armor:** Increases the hit points of ships and transports by 250%. Personal



combat armor is also enhanced, adding 25 to all ground attacks.

45 **Industrial Waste Elimination:** Factories cease to pollute.

50 **Neutronium Armor:** Provides the best internal protection of any armor and increases the hit points of a ship by 300%. Personal combat armor is also enhanced, adding 30 to all ground attacks.

Force Field Technology

1 **Class I Deflector Shields:** Absorbs 1 point of damage from all attacks.

4 **Class II Deflector Shields:** Absorbs 2 points of damage from all attacks.

8 **Personal Deflector Shield:** Protects individual ground troops with a directional force field. Adds +10 to all ground combat battles.

10 **Class III Deflector Shields:** Absorbs 3 points of damage from all attacks.

12 **Class V Planetary Shield:** Absorbs 5 points of damage from attacks against planet surfaces and is cumulative with missile base deflector shields.

14 **Class IV Deflector Shields:** Absorbs 4 points of damage from all attacks.

16 **Repulsor Beam:** Repels enemy ships back one space away from the defending ship. This special weapon has a range of 1 space.

20 **Class V Deflector Shields:** Absorbs 5 points of damage from all attacks.

21 **Personal Absorption Shield:** Absorbs damage from all hand weapons. Adds 20 to all ground combat battles.

22 **Class X Planetary Shield:** Absorbs 10 points of damage from all attacks against planet surfaces and is cumulative with missile base deflector shields.

24 **Class VI Deflector Shields:** Absorbs 6 points of damage from all attacks.

27 **Cloaking Device:** Renders ships nearly invisible until they attack. While cloaked ships receive a +5 bonus to their missile and beam defenses, ships must uncloak to attack (but receive first fire) and will automatically recloak on any subsequent turn in which they don't attack.

30 **Class VII Deflector Shields:** Absorbs 7 points of damage from all attacks.

31 **Zyro Shield:** An energy field that destroys incoming missiles and torpedoes 75% of the time, less 1% per technology level of the missile.

32 **Class XV Planetary Shield:** Absorbs 15 points of damage from all attacks against planet surfaces and is cumulative with missile base deflector shields.

34 **Class IX Deflector Shields:** Absorbs 9 points of damage from all attacks.

37 **Stasis Field:** Freezes one group of enemy ships, up to one space away, for one turn. Frozen ships cannot attack or be attacked.

38 **Personal Barrier Shield:** Completely encases the soldier in a nearly impenetrable force field. Adds +30 to all ground combat rolls.

40 **Class XI Deflector Shields:** Absorbs 11 points of damage from all attacks.

42 **Class XX Planetary Shield:** Absorbs 20 points of damage from all attacks against planet surfaces and is cumulative with missile base deflector shields.

43 **Black Hole Generator:** Creates a sub-space field that warps normal space creating an instantaneous black hole, destroying 25%-100% of enemy ships or missile bases, less 2% per shield class.

44 **Class XIII Deflector Shields:** Absorbs 13 points of damage from all attacks.

46 **Lightning Shield:** An energy field that destroys incoming enemy missiles and torpedoes 100% of the time, less 1% per technology level of the missile.

50 **Class XV Deflector Shields:** Absorbs 15 points of damage from all attacks.

Planetology Technology

1 **Ecological Restoration:** Eliminates 2 units of industrial waste for a cost of 1 BC.

2 **Improved Terraforming +10:** Increases the population capacity of planets by 10M for a cost of 5 BC per million.

3 **Controlled Barren Environment:** Permits the colonization of barren and standard planets.

5 **Improved Eco Restoration:** Eliminates 3 units of industrial waste for a cost of 1 BC.

6 **Controlled Tundra Environment:** Permits the colonization of tundra, barren and standard planets.

8 **Improved Terraforming +20:** Increases the population capacity of planets by 20M for a cost of 5 BC per million.

9 **Controlled Dead Environment:** Permits the colonization of dead, tundra, barren and standard planets.

10 **Death Spores:** Horrible biological weapons capable of reducing the maximum planetary populations by 1 million per attack (with political consequences, see Chapter 11).

12 **Controlled Inferno Environment:** Permits the colonization of inferno, dead, tundra, barren and standard planets.

13 **Enhanced Eco Restoration:** Eliminates 5 units of industrial waste for a cost of 1 BC.

14 **Improved Terraforming +30:** Increases the population capacity of planets by 30M for a cost of 4 BC per million.

15 **Controlled Toxic Environment:** Permits the colonization of toxic, inferno, dead, tundra, barren and standard planets.

16 **Soil Enrichment:** Converts standard planets to fertile environments, increasing population growth by 50% and raising the base planetary size by +25% for a one time cost of 150 BC.

17 **Bio Toxin Antidote:** Reduces casualties taken from biological weapons by 1 million per attack.

18 **Controlled Radiated Environment:** Permits the colonization of radiated and all other planets.

20 **Improved Terraforming +40:** Increases the population capacity of planets by 40M for a cost of 4 BC per million.

21 **Cloning:** Allows bio-engineered colonists to be grown at a rate of 1M per 10 BC (half the cost of the standard rate).

22 **Atmospheric Terraforming:** Converts hostile planets to standard minimal environments (including raising its base population size by up to 20 million), normalizing population growth for a one time cost of 200 BC.

24 **Advanced Eco Restoration:** Eliminates 10 units of industrial waste for a cost of 1 BC.

26 **Improved Terraforming +50:** Increases the population capacity of planets by 50M for a cost of 3 BC per million.

27 **Doom Virus:** Dreadful biological weapons capable of reducing planetary populations by 2 million per attack (with political consequences, see Chapter 11).

30 **Advanced Soil Enrichment:** Converts standard and fertile planets to gaias, doubling the population growth and increasing the planet's base size by +50% for the one time cost of 300 BC.

32 **Improved Terraforming +60:** Increases the population capacity of planets by 60M for a cost of 3 BC per million.

34 **Complete Eco Restoration:** Eliminates 20 units of industrial waste for a cost of 1 BC.

36 **Universal Antidote:** Reduces casualties taken from biological weapons by 2 million per attack.

38 **Improved Terraforming +80:** Increases the population capacity of planets by 80M for a cost of 2 BC per million.

40 **Bio Terminator:** Abominable biological weapons capable of reducing planetary populations by 3 million per attack (with political consequences).

42 **Advanced Cloning:** Allows bio engineered colonists to be grown at a rate of 1M per 5 BC.

44 **Improved Terraforming +100:** Increases the population capacity of planets by 100M for a cost of 2 BC per million.

50 **Complete Terraforming:** Increases the population capacity of planets by 120M for a cost of 2 BC per million.

Propulsion Technology

1 **Retro Engines (Warp 1):** Moves ships at warp one (1 parsecs per turn) and allows a maximum maneuverability of class I in combat.

3 **Hydrogen Fuel Cells (Range 4):** Fuel reserves allow ships to move up to 4 parsecs away from colony planets.

5 **Deuterium Fuel Cells (Range 5):** Fuel reserves allow ships to move up to 5 parsecs away from colony planets.

6 **Nuclear Engines (Warp 2):** Moves ships at warp two (2 parsecs per turn), and allows a maximum maneuverability of class II in combat.

9 **Iridium Fuel Cells (Range 6):** Fuel reserves allow ships to move up to 6 parsecs away from colony planets.

10 **Inertial Stabilizer:** Generates a field that reduces the inertia of ships, and adds 2 classes of maneuverability in combat (i.e., +2 defense and +1 combat speed).

12 **Sub-Light Drives (Warp 3):** Moves ships at warp three (3 parsecs per turn), and allows a



maximum maneuverability of class III in combat.

14 **Dolomite Crystals (Range 7):** Fuel reserves allow ships to move up to 7 parsecs away from colony planets.

16 **Energy Pulsar:** A potent engine modification which generates a sudden spherical burst of energy striking all adjacent target's armor for up to 5 points of damage plus 1 per two ships in the attacking, pulsar-armed group.

18 **Fusion Drives (Warp 4):** Moves ships at warp four (4 parsecs per turn), and allows a maximum maneuverability of class IV in combat.

19 **Uridium Fuel Cells (Range 8):** Fuel reserves allow ships to move up to 8 parsecs away from colony planets.

20 **Warp Dissipator:** Specialized weapon that disrupts the warp fields surrounding enemy ships. It has a 50% chance of reducing their speed by 1 each time the target group is fired upon and can, with enough hits, leave that group "dead in space" and unable to warp out of combat.

23 **Reajax II Fuel Cells (Range 9):** Fuel reserves allow ships to move up to 9 parsecs away from colony planets.

24 **Impulse Drives (Warp 5):** Moves ships at warp five (5 parsecs per turn), and allows a maximum maneuverability of class V in combat.

27 **Intergalactic Star Gates:** Allows your ships to move between any two planets equipped with star gates in a single turn. Costs 3000 BC each to build plus 300 BC per turn to maintain.

29 **Trilithium Crystals (Range 10):** Fuel reserves allow ships to move up to 10 parsecs away from colony planets.

30 **Ion Drives (Warp 6):** Moves ships at warp six (6 parsecs per turn), and allows a maximum maneuverability of class VI in combat.

34 **High Energy Focus:** Increases the firing range of all energy weapons by three.

36 **Anti-Matter Drives (Warp 7):** Moves ships at warp seven (7 parsecs per turn), and allows a maximum maneuverability of class VII in combat.

38 **Sub Space Teleporter:** Teleports ships to any space on the combat map and gives movement initiative and first fire to the teleporting ship group. Is negated by Sub Space Interdictors.

40 **Ionic Pulsar:** A powerful engine modification capable of generating a spherical burst of phased energy striking all adjacent target's armor for up to 10 points of damage plus one per ship in the attacking, pulsar-armed group.

41 **Thorium Cells (Unlimited Range):** Self-replenishing fuel that allows ships to move any distance from colony planets.

42 **Inter-Phased Drives (Warp 8):** Moves ships at warp eight (8 parsecs per turn), and allows a maximum maneuverability of class VIII in combat.

43 **Sub Space Interdictor:** Creates an intense gravity well surrounding colony planets and rendering sub space teleporters useless. The device is automatically placed for free in all missile bases.

45 **Combat Transporters:** Transports equipped with these devices have a 50% chance of beaming down onto enemy surfaces before they can be attacked by enemy ships and missile defense bases.

46 **Inertial Nullifier:** Generates a field that negates the inertia of ships and adds 2 classes of maneuverability in combat (i.e., +4 defense and +2 combat speed).

48 **Hyper Drives (Warp 9):** Moves ships at warp nine (9 parsecs per turn), and allows a maximum maneuverability of class IX in combat.

50 **Displacement Device:** Randomly shifts the equipped ship group in and out of normal space, allowing it to avoid one third of all non-area (i.e., non-special weapon) attacks.

Weapon Technology

1 **Lasers:** Direct-fire beam weapon that inflicts 1-4 points of damage. Heavy lasers have a range of 2 spaces and do 1-7 points of damage.

2 **Hand Lasers:** Personal lasers that add 5 to your ground combat rolls.

4 **Hyper-V Rockets:** Swift missiles that explode for 6 points of damage and move at a speed of 2.5.

5 **Gatling Laser:** An advanced laser that fires up to four times per turn for 1-4 points of damage with each hit.

6 **Anti-Missile Rockets:** Trans-light rockets capable of destroying incoming enemy missiles 40% of the time, less 1% per technology level of the missile.

7 **Neutron Pellet Gun:** Heavy particle stream weapon that halves the effectiveness of enemy deflector shields and inflicts 2-5 points of damage.

8 **Hyper-X Rockets:** Missiles equipped with high energy warheads that explode for 8 points of damage, move at a speed of 2.5, and are controlled by a +1 level targeting computer.

9 **Fusion Bomb:** Bombs that explode for 5-20 points of damage against planetary targets only.

10 **Ion Cannon:** High intensity beam weapons capable of inflicting 3-8 points of damage. Heavy ion cannons strike for 3-15 and have a 2 space range.

11 **Scatter Pack V Rockets:** MIRV versions of Hyper-V Rockets, splitting into five separate warheads that each explode for 6 points of damage and move at a speed of 2.5

12 **Ion Rifle:** Personal beam weapons that add 10 to your ground attacks.

13 **Mass Driver:** A linear accelerator that halves the effectiveness of enemy deflector shields and inflicts 5-8 points of damage.

14 **Merculite Missiles:** Hard-hitting, swift missiles that explode for 10 points of damage, move at a speed of 3, and are controlled by a +2 level targeting computer.

15 **Neutron Blaster:** High powered beam weapons capable of inflicting 3-12 points of damage. Heavy neutron blasters strike for 3-24 points and have a 2 space range.

16 **Anti-Matter Bomb:** Bombs that explode for 10-40 points of damage against planetary targets only.

17 **Graviton Beam:** Tractor-repulsor beam capable of rending ships to pieces. It strikes for 1-15 damage, and the continuous streaming effect of the ray allows excess damage to carry over from one ship to another.

18 **Stinger Missiles:** Steady, hyper-accurate missiles that do 15 points of damage, move at a speed of 3.5, and are controlled by a sophisticated +3 level targeting computer.

19 **Hard Beam:** An energy-to-matter beam weapon that halves the effectiveness of enemy deflector shields, and inflicts 8-12 points of damage.

20 **Fusion Beam:** High intensity beam weapon capable of doing 4-16 points of damage. Heavy fusion beams strike for 4-30 points and have a range of 2 spaces.

21 **Ion Stream Projector:** Fires an intense ionic blast reducing the armor of every target in the opponent's group by 20% plus 1% per two firing ships, up to a maximum of 50% of its starting hit points in a single attack. The projector has a range of 2 spaces.

22 **Omega-V Bomb:** High yield bombs that explode for 20-50 points of damage against planetary targets only.

23 **Anti-Matter Torpedoes:** High energy tracking torpedoes that deliver 30 points of damage but may only be fired every other turn. Each torpedo is equipped with a +4 level targeting computer.

24 **Fusion Rifle:** Inaccurate but incredibly powerful beam weapons that add 20 to your ground combat rolls.

25 **Megabolt Cannon:** Releases multiple bolts of pure energy in a wide field. It has a bonus +30% chance to hit and strikes for 2-20 points of damage.

26 **Phasor:** Phased energy beams capable of inflicting 5-20 points of damage. Heavy phasors strike for 5-40 points of damage and have a range of 2 spaces.

27 **Scatter Pack VII Missiles:** MIRV versions of Hyper-X Rockets, splitting into seven separate warheads that each explode for 10 points of damage, move at a speed of 3, and are guided by a +2 level targeting computer.

28 **Auto Blaster:** An advanced neutron blaster that fires up to three times per turn for 4-16 points of damage with each hit.

29 **Pulson Missiles:** Powerful missiles equipped with anti-matter warheads that explode for 20 points of damage, move at speed 4, and are controlled by a +4 level targeting computer.

30 **Tachyon Beam:** Fires an intense stream of tachyon particles that strike enemy ships for 1-25 hits. The continuous streaming effect of the ray allows it to carry damage over from one ship to another.

31 **Hand Phasor:** Potent hand held energy weapons capable of reducing an opponent to his component atoms. Adds 25 to your ground combat rolls.

32 **Gauss Autocannon:** An advanced linear accelerator capable of firing four explosive rounds



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per turn that inflict 7-10 points of damage each. These projectile rounds also halve the effectiveness of enemy shields.

33 **Particle Beam:** High intensity particle accelerators capable of striking enemy ships up to one space away for 10-20 points of damage and halving the effectiveness of their deflector shields.

34 **Hercular Missiles:** Highly advanced missile that explodes for 25 points of damage. The hercular missile moves at speed 4.5 and is controlled by a +5 level targeting computer.

35 **Plasma Cannon:** Fires intense bolts of energy that inflict 6-30 points of damage at a range of 1.

36 **Death Ray:** An ancient weapon of unbelievably destructive power that inflicts 200-1000 points of damage and has a 1 space range (*not* 3). Only available after defeating the Guardian of Orion (who is armed with it).

37 **Disruptor:** Unleashes tremendous bolts of pure energy that can strike enemy targets up to 2 spaces away for 10-40 points of damage.

38 **Pulse Phasor:** An advanced phasor capable of firing three bursts per turn for 5-20 points of damage with each hit.

39 **Neutronium Bomb:** A devastating bomb that explodes for 40-70 points of damage against planets only.

40 **Hellfire Torpedoes:** Enveloping energy torpedoes that simultaneously strike all shields. They move at speed 5, are guided by a +6 level targeting computer and, if they hit, deliver damage equal to four 25 point attacks. They may only be fired once every other turn.

41 **Zeon Missiles:** Most advanced missile available. Capable of striking enemy ships for 30 points of damage and moving at a speed of 5. The zeon missile is guided by a +6 level targeting computer.

42 **Plasma Rifle:** The most devastating hand held weapon available. Adds 30 to your ground attacks.

43 **Proton Torpedoes:** High yield energy torpedoes that deliver 60 points of damage but may only be fired every other turn. Each torpedo is equipped with a +6 level targeting computer.

44 **Scatter Pack X Missiles:** MIRV versions of Stinger Missiles, splitting into ten separate warheads that each explode for 15 points of damage, move at speed 3.5, and are guided by a +3 level targeting computer.

45 **Tri-Focus Plasma Cannon:** Fires a triad of high intensity plasma beams capable of inflicting 20-50 points of damage.

46 **Stellar Converter:** Surrounds the target with an extremely powerful matter-energy conversion field, inflicting four 10-35 point attacks. It has a range of 3 spaces.

47 **Neutron Stream Projector:** Fires a blast of concentrated neutrino rays reducing the armor of every target in the opponent's group by 40% plus 1% per firing ship, up to a maximum of 75% of its starting hit points in a single attack. The projector has a range of 2 spaces.

48 **Mauler Device:** Unleashes enormous amounts of focused energy at enemy targets, inflicting 20-100 points of damage.

50 **Plasma Torpedoes:** Pure energy torpedoes that deliver 150 points of damage and move at speed 6, but lose 15 strength per space traveled (which is always at least one). The launcher can fire every other turn and has a +7 level guidance computer.

** **The Amoeba Stream:** This is the weapon used by the Amoeba Space Monster (see Chapter 14). You'll never get to use it, but you may have to face it, so be aware that an Amoeba Monster packs one of these as its sole armament. An Amoeba Stream does 250-1000 damage and has a range of 3. Its continuous streaming effect allows it to carry damage over from one ship to another, so expect large groups of small ships to get whittled down fairly quickly when fired upon by this weapon.

** **The Crystal Ray:** This weapon is used by the Crystalline Space Monster (among others, see Chapter 14). Again, you'll never get to use one, but you'll find yourself on the business end of them when combating this creature. Know that a Crystal Monster packs up to 10 of these babies and each one surrounds a target's shields (like a Stellar Converter), thus making four attacks, each of which does 100-300 points of damage. The Crystal Ray has a range of 3.

[This player's aid was excerpted from Prima Publishing's forthcoming "Master of Orion: The Official Strategy Guide."] CGW


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FLORINS IN ARABIA





QQP's *Merchant Prince* Is A Sure Moneymaker

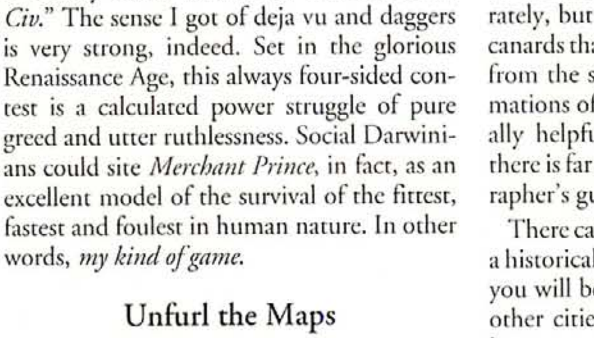
by Alan Emrich

If *Master of Orion* can be called "*Civilization* in space," then *Merchant Prince* is likely to be known as "Machiavellian *Civ.*" The sense I got of deja vu and daggers is very strong, indeed. Set in the glorious Renaissance Age, this always four-sided contest is a calculated power struggle of pure greed and utter ruthlessness. Social Darwinians could site *Merchant Prince*, in fact, as an excellent model of the survival of the fittest, fastest and foulest in human nature. In other words, *my kind of game.*

Unfurl the Maps

The most striking and alluring feature of *Merchant Prince* is the map of the world and its undiscovered regions. Players of *Empire Deluxe* and *Civilization* will be used to the black tiles that cover unexplored areas, a tradition in strategy games of exploration that has evolved little since the dawn of computer gaming. *Merchant Prince* gives its undiscovered map a charming and unique twist.

When the game begins, the map is covered by another, less accurate map with the look of 14th century cartography. What is known of the world is displayed somewhat accurately, but the map becomes more ripe with canards than calculations the further you drift from the starting city of Florence. The estimations of coastlines and cities, while generally helpful, can be wildly inaccurate, and there is far more to discover than this "cartographer's guesstimate" map suggests.



There can be two types of worlds generated: a historical one, where Florence is in Italy and you will be able to figure out the location of other cities from your 7th grade geography lessons; and the more interesting randomly generated worlds. For better or worse, these randomly generated worlds, where true exploration skills apply, are "fixed" when created. They will always have the same number of cities, with the same names, selling the same goods (although the prices of imports and exports do seem to vary). This begin the case, you'll know that you haven't seen everything until that last city, which you'll know by name, has been discovered and accounted for.

Once cities have been discovered through standard, square-by-square exploration, the game really begins. Cities are either open or closed to trade. Closed cities can be opened by conquering armies, which must be hired at considerable expense. If a you conquer a city, you get to decide who that city will trade with, which means that certain opponents can be included or excluded from trading there. Most cities seem to be open, and once a friendly trade unit is inside the city, the only place of any urban interest is the marketplace.

A Fist Full of Florins

Here, in each city's marketplace, you can see the price that cities will pay, in Florins, for any of the world's 20 different types of merchandise (including light and heavily armed soldiers). Items that a city has in good supply are generally the items that the city produces. To make money, you must buy cheap in one city, and then haul the stuff to other cities that will pay dearly for it. But money isn't everything in *Merchant Prince*—it is merely a means to an end. Money is but a tool for purchasing what *really* matters, which is, as they say on *Home Improvement*, "More power!"

To build an economic empire, players may purchase camel and donkey caravans to conduct overland exploration and establish trade routes. Camels are preferred to donkeys in the world's large complement of desert terrain. To facilitate overland commerce, as in *Civilization*, you can build roads, which, by the way, even *look* like the roads in *Civ*!

For long distance traders, there are four different sizes of trading vessels that can be purchased at ports cities (which is almost all of them, as even inland cities are often connected to the oceans by rivers). Players who buy a ship will find that they have varying movement allowances per turn and cargo carrying capacities, offering a budding Onassis

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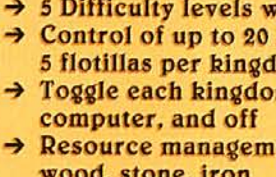


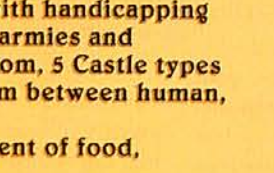
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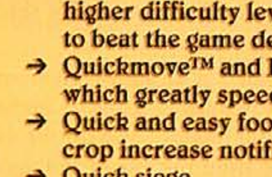


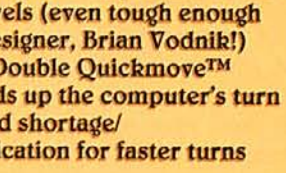
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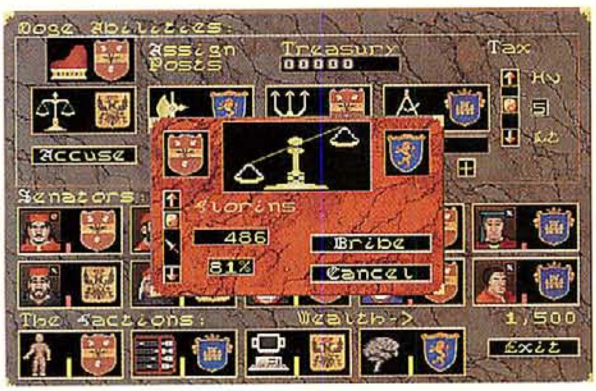
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a variety of tools with which he can set sail into his future of economic empire building.

Through a fairly intuitive set of screens, it is easy to load up both land and naval trading units in a city and move them out. Movement is either done manually, square-by-square, or by selecting a destination city and allowing the computer to automatically handle movement each turn. When opting for this latter method, the computer generated trade route can be set to one of three different risk/speed levels. While it might be faster to cut straight across the oceans, it is safer to hug the coastlines and stay near other cities. The old adages of "time is money" and "haste makes waste" come into conflict when deciding upon the risk/speed levels for individual trade routes.



Trading routes can even be automated, much like in *Railroad Tycoon*. Once a profitable "milk run" is established, you need only organize your trading units into groups for their mutual protection, tell them what to buy and sell, and assign them to routes of up to four destinations each (just as in *Railroad Tycoon*). As the florins roll in, however, there will be more to do with them than just impress your banker, but I don't want to get ahead of myself.

It's a Cruel World, My Child

The trouble with the world is that it is full of random events. Specifically, these disasters appear in the form of brigands, pirates, storms and the machinations other players. Brigands attack your caravans, while pirates trouble your ships. Both of these troublesome occurrences are carefully targeted toward established trade routes. When defeated, brigands and pirates will dissipate somewhat, but if they find commerce poorly protected and easily captured, it is like ringing the dinner bell for a school of sharks. The slightest sign of weakness will lead to the rapid infestation of your routes by those brigands and pirates who would steal from you. To protect commerce, you must hire guards, who both take up valuable cargo space and consume a fixed amount of money every turn, cutting into the profits with every passing year.

Now How Much Would You Pay?

Eventually, you will become rich. With a steady income to support your ambitions, the time will soon come for you to look toward bigger and better things. In particular, there are two high offices to which you can be elected: Leader of the Doge (which effectively makes you the "world ruler") or the Pope (a lesser, but still powerful, world ruler). Election to either seat requires the purchase of Doge members (corrupt politicians who can be a considerable financial drain and may not stay loyal) or Cardinals (who "stay bought" and provide a steady income from their continuing sale of indulgences). Occasionally, these hired votes will be assassinated, hanged for treason, die of old age, or any of a number of things that will deprive you of their benefits. When the excrement hits the rotary air circulator and it is suddenly time to elect a new leader to one of these exalted positions, every vote counts.

Once ruler of either of these areas, your power and influence increases tremendously. As Pope, for instance, you can set the income generated from the sale of indulgences (not too high, though, or the church becomes unpopular), create more cardinals (they can die off and need occasional replacement—besides the Pope is cut in for a piece of the action of all Cardinal sales), excommunicate a city (which then pays more for any imported goods) or even call a Crusade (giving the Pope, in effect, a free army to play with). The leader of the Doge is even more powerful, assigning jobs to other players who then control the corrupt purse strings of the state. Some things never change, it seems.

Four Against The World

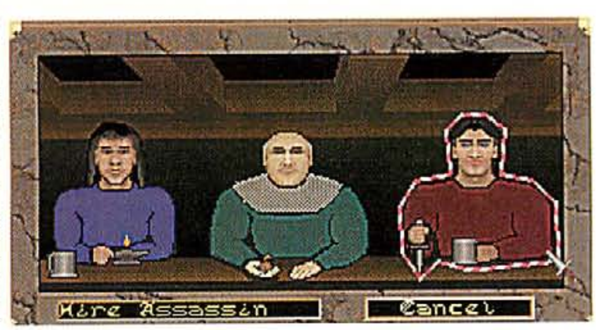
The real beauty of *Merchant Prince* clearly lies within its multi-human player element. Each of the four positions in the game can be managed by a human player, with a specific play-by-email feature included. Players can send messages (full of conniving, weaseling, and back stabbing treachery, no doubt) in their play-by-email moves and



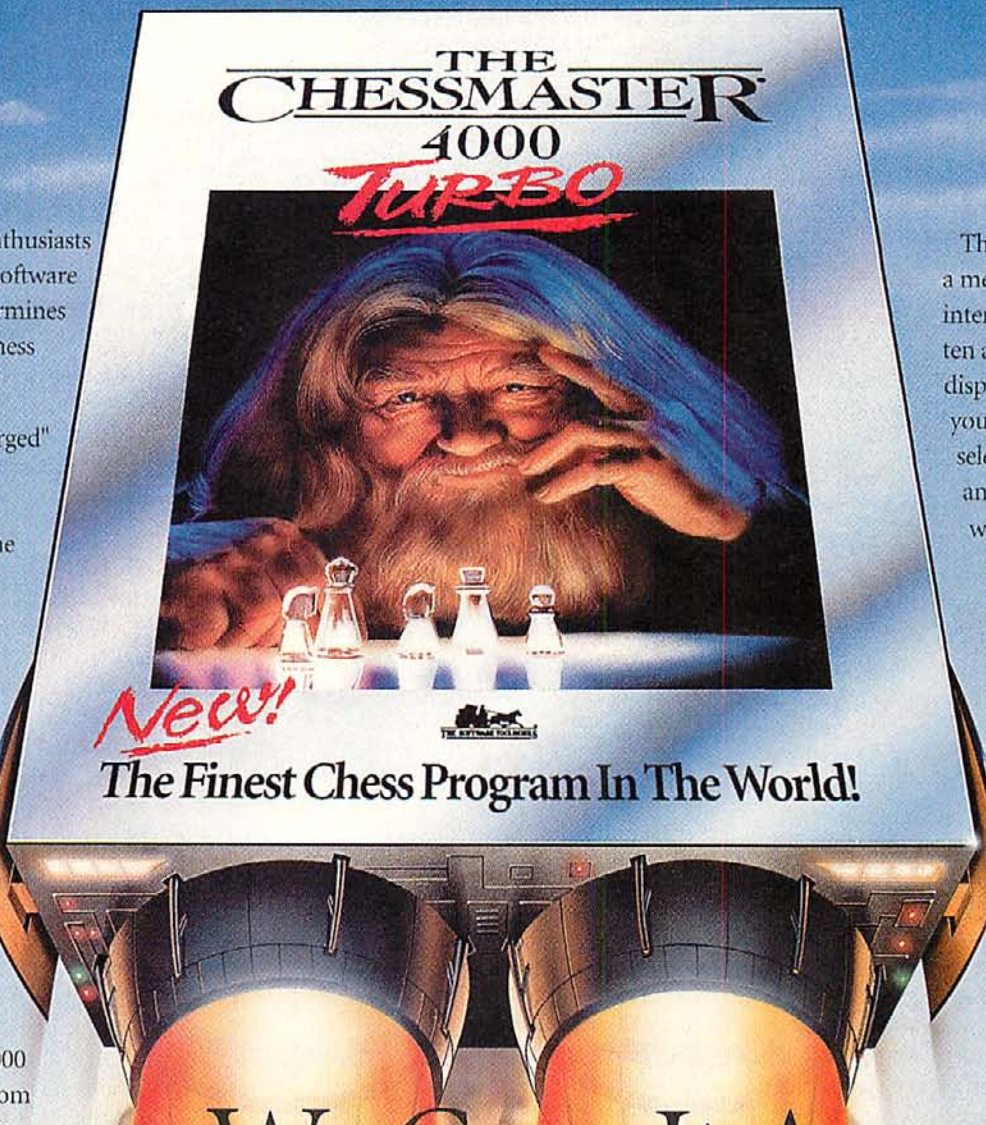
make all the behind-the-scenes deals and public announcements that they want. In games of power politics such as *Merchant Prince*, it is easy to imagine the phone lines burning with intrigue as spouses stare in wonderment at players shouting, "Make *you* the Pope? What's in it for me? How about transit rights through Tunis and 2000 Florins... *in advance*." Yes, the possibilities are there, all right.

When another player gives you trouble, there is more than one way to intrigue against him. To wit, you can always go down to the local sleazy bistro and hire either an arsonist, a muck raking slanderer, or quiet assassin to deal with the situation. Murdering the Pope or members of the Doge, soiling a player's good name, and burning down opponents' villas are all just tools of the trade in *Merchant Prince*.

Personally, I enjoy trading games, and loved *Civilization*. Not surprisingly, my initial impressions of this QQP game have left me intrigued and interested to see it in its final form. Although I found myself taking a lot of notes to keep track of optimal buying and selling prices (we anal retentive types really like to optimize our trade routes), I found playing *Merchant Prince* no less enjoyable because of this. Solid and with ample play value, I think *Merchant Prince* will create quite a trade among gamers, particularly those seeking a good play-by-email backstabbing feast. One final word of advice, though: Although the world (and the players) are rich, a good fortune is no substitute for good fortune. CGW



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War In Our Time

A Survey Of Wargames From 1950-2000

by M. Evan Brooks

Pity the contemporary wargame designer. With the collapse of the Soviet Union and the disappearance of the "Red Monolithic Threat," wargame designers are as confused as senior cabinet officials in the Clinton administration. Hypothetical Soviet-NATO confrontations simply lack marketability now, while Balkan interventions have the appeal of overripe compost; and if one can come up with a timely topic (e.g., the economic collapse of the Soviet Union *a la Crisis in the Kremlin*), actual events can render it obsolete before the code is completed. The "New World Order" is characterized by a lack thereof, and until a viable other world military-industrial complex evolves that is truly fearsome, contemporary designs may well avoid strategic perspectives.

A continuing saga, this survey will cover contemporary wargames, from the Korean War to the near future. Ratings have been revised, and earlier releases will often have lower ratings, simply because time is particularly unkind to electronic entertainment products.

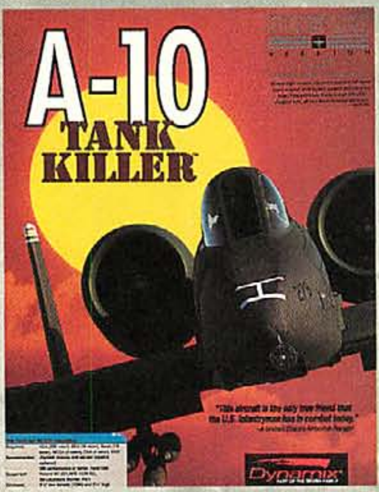
If any readers have additions/corrections/modifications, please send them to me in care of this magazine or via modem on GEnie (address: M.E. Brooks). The reader submitting the most correct additions will receive a one-year subscription/extension to his *CGW* subscription.

The winner from the 1900-1950 period is Robert J. Cohen. A long-time reader, Mr. Cohen remembers reading my initial writings from a decade ago in *Current Notes*, an Atari user group publication. Congratulations! Please note that submissions are to be in the period covered in the article. One confused though enterprising reader added many Civil War and Vietnam period "omissions" to the 1900-1950 survey.

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Ratings:

0	= Good use as a magnet holder
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★★	= Marginal
★★★	= Average to Good
★★★★	= Very Good
★★★★★	= The Highest Recommendation
N-R	= Not Rated

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LINE 3: Difficulty: (Beg)inner/(Int)ermediate/(Adv)anced; Environment (Land)/(Nav)al/(Air)/(Dip)lomatic/(Econ)omic; Level (Tac)tical/(Op)erational/(St)rategic; # of Players (M: modem option).



Level Definitions:
Tactical: man-to-man up to company level (turns represent seconds to hours)
Operational: battalion-level to division-level (turns represent hours to weeks)
Strategic: corps-level to theater army or higher (turns represent weeks to years)

Military Organization:

Fire Team	2-3
Squad	9-12
Platoon	40-50
Company	120-150
Battalion	500-1,000
Brigade	3,000-5,000
Division	10,000-15,000
Corps	20,000-80,000
Army	100,000-up

ABRAMS BATTLE TANK (★★)
(I; #60) Electronic Arts; Damon Slye; 1989; $49.95
Int/Land/Tactical/1
The first serious contemporary tank simulation for the faster 16-bit machines, this product has been superseded by later releases (*M-1 Tank Platoon, Tank*). Graphics were adequate, but terrain elevation left something to be desired, and the program only portrayed a single tank while modern doctrine emphasizes larger element (company/squadron) employment.

ACE: AIR COMBAT EMULATOR (N-R)
(C/I; #35,88) Spinnaker/UXB; Ian Martin; 1987; O/P
Beg/Air/Tac/1
A British import and arcade game, offering a two-player split screen option.

ACE 2: AIR COMBAT EMULATOR (N-R)
(C/I) Spinnaker/UXB; Ian Martin; xxx; O/P
Similar to its predecessor, except for the fact that it occurs over an ocean environment and not land.

A-10 TANK KILLER (★★★+)
(Am/I; #62,65,66,68,87) Dynamix; Damon Slye; 1989; $59.95
Int/Air/Tac/1
A simulation of the Warthog, the best CAS (close air support) aircraft ever forced on the Air Force. Version 1.5 has *Desert Storm* scenarios, and the graphics are well done. Missions are varied, but joystick control is very sensitive. Maintaining level flight may prove difficult, especially when using the chain gun.

AIDE DE CAMP (★★★★)
(I; #108) HPS; Scott Hamilton; 1993; $79.95
Int/Land-Nav-Air/Tac-Op-Str/1
Not a game as much as a gamer's aid, this utility program will assist you in converting any board wargame to computer output, albeit without the AI. Once files are created, games can be played by e-mail. A library of conversions by grognard users is already under way.

AIRBORNE RANGER (★★+)
(C/Ap/Am/ST/I; 41,43) MicroProse; Lawrence Schick; 1987; $29.95
Int/Land/Tac/1
Contemporary Ranger operations in a semi-arcade mode that works. Challenging and fun for both adults and children, *Airborne Ranger* is recommended for a diversion from the more serious simulations.

AIR DUEL (★★)
(Am/I; #85,111) MicroProse UK; Glynn Williams; 1992; $59.95
Int/Air/Tac/1
Multi-period air combat *a la Chuck Yeager's Air Combat.* One can actually choose aircraft from World War I through the present—and that is the problem. The aircraft simply are clumsy to operate, and do not seem historically correct, e.g. would a Fokker Triplane actually have a chance to down an F-15? Wouldn't the backdraft from a jet be sufficient to throw a biplane out of the sky? A great idea with mediocre execution.

AIR FORCE COMMANDER (★★)
(I) Impressions; David Lester; 1992; $29.95
Int/Air/Str/1
Offering multi-scenario options for strategic air supremacy in the Middle East, the scenarios themselves are detailed and somewhat esoteric, e.g. Bahrain vs. Qatar (actually not that unrealistic given the political realities). But the speed of the game could not be slowed down (eventually a patch was distributed over electronic bulletin boards). Overall, an interesting effort with little potential for enduring play value.

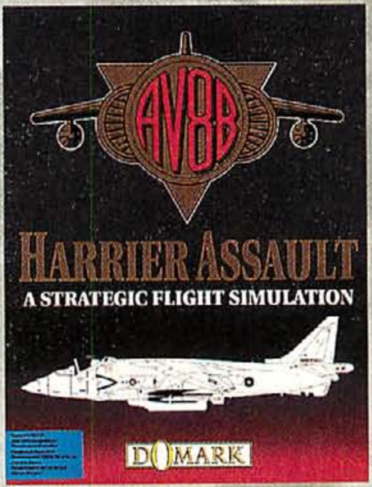
AIR STRIKE USA (★+)
(Am/I; #82) CinemaWare/Spotlight; Rod Swift; 1990; $39.95
Beg/Air/Tac-Op/1
An arcade game semi-disguised as a flight simulator, *Air Strike* portrays an *ATF II* (ultra-modern attack fighter) in a multitude of missions world-wide. Documentation is somewhat spartan, with the world views and flight mechanics of a similar vein.

AIR WARRIOR (★★★★)
(#63;67,88) GEnie; Kesmai; 1988; $6/hour
Int/Air/Tac/1-multi; M
An on-line simulation of tactical air combat from World War I onwards. Continually being revised and updated, it is interesting although it can become an expensive way of life. The learning curve is lengthy, but often veteran pilots are available on-line who are willing to give assistance and tutorials.

APACHE STRIKE (N-R)
(M/I; #48) Electronic Arts/Silicon Beach; James W. Long and Tom Zerucha; 1988; O/P
Beg/Air/Tac/1
An arcade version of an AH-64 helicopter simulation, all action occurs in an urban environment *a la Air Wolf.*

ARCTIC FOX (N-R)
(C/Ap/ST/Am/I; #28) Electronic Arts; Kevin Ryan, Jeff Tunnell, Damon Slye and Richard Hicks; 1986; O/P
Beg/Land/Tac/1
A futuristic tank arcade game resembling the early coin-op *Tank Zone,* but with more options.

ARMOR ALLEY (★+)
(M/I; #87) Three Sixty; Arthur Britto II; 1990; $39.95
Bas/Land-Air/Tac/1-4; M
An arcade tank/air support game, this involves eight scenarios of increasing difficulty. Graphics and game play can offer a short entertaining diversion, but little of serious import. An updated version of an early Apple 8-bit game.



ARMOR ASSAULT (★+)
(A; #3.1,37) Epyx; John Weber; 1983; O/P
Beg/Land/Tac/1-2
A tactical meeting engagement between US and Soviet forces, this game was one of the first to offer a "design-your-own-scenario" option. Units are limited to six vehicles each (no other air or ground support); hence its realism is very low. Given the contemporary market, this game is visibly obsolete.

ASHES OF EMPIRE (N-R)
(I; #111) Gametek; Mike Singleton; 1993; $59.95
Adv/Land/Op-Str/1
A logistician's dream (nightmare?) of reconstructing a nation-state that has recently disintegrated into numerous factions (does the name Boris Yeltsin ring a bell?).

ATAC (★★)
(Am/I; #105) MicroPlay; Argonaut; 1992; $59.95
Int/Air/Tac/1
Initially titled *White Shadow* (until many people confused it with an old television show about a white basketball coach in an inner city school), this simulation *(Advanced Tactical Air Fighter)* portrays the drug wars between the US and the Medallin cartel *a la* the book *Clear and Present Danger.* Adequate is a fair description, but no one was really excited about the parameters of the design.

AV8B HARRIER ASSAULT (N-R)
(Am/I; #106) Domark; Simis; 1993; $59.95
Adv/Air/Tac-Op/1
A detailed simulation of the British *Harrier.* Unlike most flight simulators, this was more of an operational wargame which offered the opportunity to plan and execute an amphibious operation (see *Jumpjet* for similar treatment of the aircraft).

B-1 NUCLEAR BOMBER (0)
(Ap; #1.1) Avalon Hill; xxx; 1983; O/P
Beg/Air/Tac/1
An early game from Avalon Hill, its play mechanics are embarrassing in the contemporary market; in fact, its play mechanics were embarrassing when it was initially released.

BALANCE OF POWER (★★★)
(Ap/GS/Am/ST/M/I; #29,34,40,57,64) Mindscape; Chris Crawford; 1985; $49.95
Adv/Dip/Str/1-2
With numerous revisions having already appeared, this simulation of modern power politics graduated from a bi-polar world (US/Soviet) in its initial release to a multi-polar world (US/Soviet/Chinese/Third World) in its later edition. A newer edition will probably simulate the newest version of *Realpolitik,* with the collapse of the Soviet Empire and the restoration of the instabilities inherent in Eastern Europe.

BALTIC 1985 (N-R)
(Ap/C) Strategic Simulations Inc.; Roger Keating; 1984; O/P
Int/Nav-Air/Op/1-2
Part of SSI's *When Superpowers Collide* series, this simulation covers World War III in the Baltic.

BATTALION COMMANDER (★★+)
(A/Ap/C; #37) Strategic Simulations Inc.; David Hille; 1983; O/P
Int/Land/Tac/1
A modern simulation of company/battalion level operations, this was an improvement on *Combat Leader,* but its age still shows.

BATTLE COMMAND (N-R)
(C; #40,74,88) Applied Computer Consultants; xxx; 1986; O/P
Beg/Land/Op/2; M
More of an abstract *Battle Chess* than a modern simulation.

BATTLE FRONT (★★★)
(C/Ap; #32,37,88) Strategic Studies Group; Roger Keating and Ian Trout; 1987; $39.95
Int/Land/Op/0-2
A very flexible game covering corps-level combat and proper use of the chain of com-

mand during World War II. Design-your-own scenarios open the bulk of the 20th century to gaming; however, the artificial intelligence of subordinate commanders is notoriously weak. The game system will either attract or repel the player—there is no middle ground.

BIRDS OF PREY (★★)
(Am/I; #85) Electronic Arts; Argonaut; 1992; $49.95
Int/Air/Tac/1
Modern aerial warfare with over 40 different aircraft. Yet, the various aircraft have suspiciously similar flight characteristics and instrumentation. Overall, the personality is bland, bland, bland!

BLUE ANGELS (★★)
(C/Am/ST/I; #63,65,67,70) Accolade; Rick Banks and Paul Butler; 1990; $49.95
Int/Air/Tac/1
What if they didn't give a war but people still came? This product simulates formation flying, and does it rather well. On the other hand, flying a hot interceptor without a viable enemy leads to a certain lassitude.

BOMBER (N-R)
(C/Am/ST/I; #66) Activision; Vektor Grafix; xxx; xxx
Int/Air/Tac/1
Released in the United States as *Strike Aces*; also known as *Fighter Bomber*.

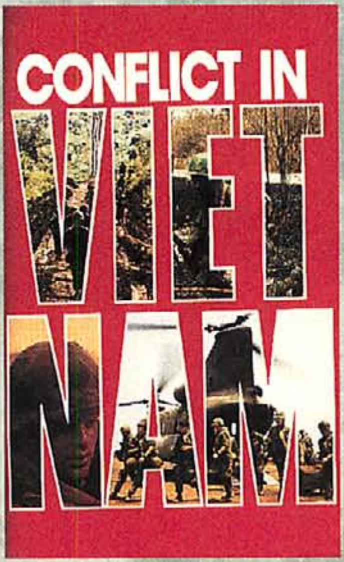
BRIGADE COMMANDER (N-R)
(Am; #85,86) TTR; Argonaut Software; 1991; $44.95
Adv/Land/Tac/1

CARDINAL OF THE KREMLIN (★+)
(I/Am; #78,88) Capstone; Intracorp; 1990; $49.95
Int/Land/Tac-Op/1
An adaptation of the Tom Clancy novel to computer game format, this simulation of Cold War politics and SDI research utilized intensive bar graphs as a replacement for action and entertainment.

CARRIER COMMAND (★★)
(Am/ST/M/I; #52,63,69) MicroPlay; Realtime Games; 1989; $39.95
Int/Nav-Air/Tac/1
A futuristic arcade game of carrier-air operations.

CHUCK YEAGER'S ADVANCED FLIGHT TRAINER (★+)
(A/Ap/C/M/I; #44) Electronic Arts; Ned Learner; 1988; xxx
Int/Air/Tac/1
Available in "classic" packages (generally three older products), this simulation was a flight simulator for a number of aircraft. Note the word "trainer" was operative, there was no combat. More than replaced by *Chuck Yeager's Air Combat*.

CHUCK YEAGER'S AIR COMBAT (★★★★)
(I/M; #85,86,88) Electronic Arts; Brent Iverson; 1991; $59.95
Int/Air/Tac/1
A flight simulator offering the ability to fly scenarios in World War II, Korea or Vietnam, or mix-and-match them. Adequate graphics (although I am not overly fond of polygon-emphasized graphics), good game play and an excellent post-mission analysis yield a high recommendation. Recently released on the Macintosh with a few minor improvements.



COMANCHE: Maximum Overkill (N-R)
(I; #104) Electronic Arts; NovaLogic; 1992; $69.95
Int/Air/Tac/1
The gunship simulation of 1992! Excellent graphics and game play were only slightly marred by the paucity of scenarios. Not necessarily accurate in any historical sense, the entertainment value was present—assuming the program worked correctly. I am still trying to figure out how to get my system to work with *CMO*; vanilla boots, separate autoexec. files, nothing seems to allow my joystick to function—and I simply refuse to play the program with keyboard input only. Hence, the lack of a rating.

COMANCHE: Maximum Overkill Mission Disk 1 (N-R)
(I; #108) Electronic Arts; NovaLogic; 1993; $39.95
Int/Air/Tac/1
Additional graphics, enemies and scenarios. However, the fight model remains the same, and the end recommendation would be that if you enjoyed the original, have at it.

COMBAT LEADER (★★)
(A/C; #3.5,37,88) Strategic Simulations Inc.; David Hille; 1983; O/P
Int/Land/Tac-Op/1
A simulation of armored tactical operations over a 40-year period. Flexible, albeit with primitive graphics.

COMMAND HQ (★★★+)
(I/M; #74,76,77,79,80,81,88) MicroProse; Dan Bunten; 1990; $59.95
Int/Land-Nav-Air/Op-Str/1-2; M
A product capable of recreating World Wars I-IV(?), this is a modified "beer and pretzels" game. Highly recommended for entertainment, although not as an historical learning experience.

COMPUTER CONFLICT (N-R)
(Ap) Strategic Simulations Inc.; Roger Keating (*Rebel Force*) and Jim Yarbrough (*Red Attack*); 1981; O/P
Int/Land/Tac/1-2
Composed of two games, *Red Attack* is a two-player introductory modern scenario, while *Rebel Force* is a solitaire game of LIC (light intensity conflict) with the player commanding the conventional forces.

CONFLICT (★★★)
(ST/Am/I; #68,72,73) Virgin Mastertronix; David Eastman; 1990; $14.95
Beg/Dip/Str/1
Easy-to-learn game of the contemporary Middle East. Quick and fun to play (if not particularly a massive intellectual challenge), but it cannot run on any machine faster than a 386.

CONFLICT EUROPE (N-R)
(Am/ST/I; #65) Mirrorsoft; xxx; 1989; O/P
Int/Land/Op-Str/1
Similar to *NATO Commander*.

CONFLICT IN VIETNAM (★★★+)
(A/Ap/C/I; #26) MicroProse; Sid Meier and Ed Bever; 1986; O/P
Int/Land/Op/0-2
The final product of the *Command* series, this simulation of campaigns in Vietnam teaches valid lessons in an enjoyable format. Yet, when all is said and done, Vietnam was an unattractive war and there is little opportunity for the player to really "win." Without a doubt, the best computer simulation ever done on the period.

CONFLICT: KOREA (★★+)
(Am/I; #98,99) Strategic Simulations Inc.; Norm Koger; 1992; $59.95
Adv/Land-Air/Tac-Op/1-2
A simulation of the Korean War (1950-51) and a hypothetical invasion (1995), this game is detailed and accurate. But while the Korean War went from massive thrust and counter


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thrust and back again to a static attritional warfare without maneuver, the program only covers the initial year. Granted that the later years were totally different types of warfare, the lack of historical completeness had difficulty engaging my interest.

CONFLICT: MIDDLE EAST (★★★)
(Am/I; #86,87,90) Strategic Simulations Inc.; Norm Koger; 1991; $59.95
Adv/Land-Air/Tac-Op/1-2
A serious simulation of the 1973 Yom Kippur War and a future Arab-Israeli War, this product is very detailed. Mouse implementation is much easier than the designer's last effort (*Red Lightning*), but it still requires much time and thought. Recommended for the serious aficionado.

CRISIS IN THE KREMLIN (★★)
(I; #95) Spectrum HoloByte; Larry Barbu; 1992; $59.95
Int/Pol/Str/1
The Slavic version of *Hidden Agenda*, only done completely with economic analysis. Superb rendition of the problems facing a Soviet Union shortly before dissolution. From the viewpoint of a certified public accountant, the program is a businessman's holiday; for the rest of us, it is somewhat tedious. A classic case of marketing being on the cutting edge of the news only to have the story break six months too soon.

DEFCON 5 (N-R)
(C/I; #38, *CGF* Winter 1987) Cosmi; Paul Norman; 1987; O/P
Beg/Air/Str/1
An SDI simulation.

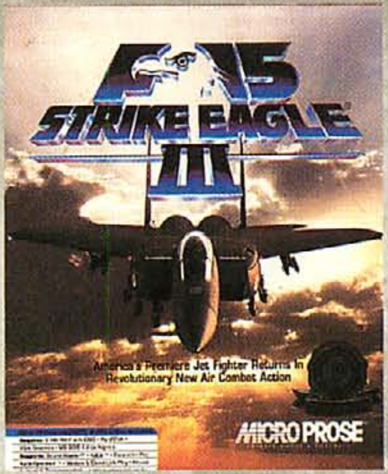
DESERT STORM WITH COALITION COMMAND (★★★)
(I CD; #105) Compton's NewMedia; Quanta Press; 1993; $49.95
Beg/Land/Str/1
As a game, there was little substance, and virtually nothing to recommend. However, as a source document for the Gulf War, this program shines. Literally, the complete Congressional report coupled with sound bites and photographs.

DRAGON FORCE (★★★)
(Am/I; #60,70,77) Interstel; Roger Damon; 1990; $49.95
Int/Land/Tac/1
Known for *Operation Whirlwind*, *Field of Fire*, *Panzer Grenadier* and *Wargame Construction Set*, Roger Damon updates his tactical system to the 16-bit machines. A logical descendant of his earlier designs, this simulation offers several man-to-man tactical situations in the contemporary environment.

F-14 TOMCAT (N-R)
(C/I; #53,58,68) Activision; Dynamix; 1989; $49.95
Beg/Air/Tac/1
A fighter simulation more akin to an arcade game.

F-15 STRIKE EAGLE (★★)
(A/C/Ap/ST/I; #4.6,74) MicroProse; Sid Meier; 1984; $19.99
Int/Air/Tac/1
The first "classic" fighter simulation, this product was well loved in its time. However, it is extremely dated in today's market.

F-15 II (★★★+)
(ST/Am/I; #65,70,86) MicroProse; Sid Meier & Andy Hollis; 1989; $54.95
Int/Air/Tac /1
An update of *F-15* to state-of-the-art graphics. A *Desert Storm Scenario Disk* ($29.95) was also released.



F-15 Strike Eagle III (★★★★)
(I; #105) MicroProse; Andy Hollis; 1992; $79.95
Int-Adv/Air/Tac/1
The latest rendition, combining state-of-the-art graphics and game value; it definitely requires a fast machine, but the graphics and game play justify themselves. On the other hand, the new generations just seem to be occurring faster and faster...

F-16 COMBAT PILOT (N-R)
(ST/Am/I; #61,66,69,83) Electronic Arts; Digital Integration; 1990; $49.95
Int/Air/Tac-Str/1-2; M
A somewhat forgettable flight simulator.

F-18 HORNET (N-R)
(C; #56) Absolute; xxx; xxx; xxx; xxx xxx/xxx

F-19 (★★+)
(C/Am/ST/I; #53,55,56,64) MicroProse; Sid Meier & Andy Hollis; 1988; $69.95
Adv/Air/Tac/1
Simulation of the Stealth Fighter, it is richly textured and complex (see *F-117* for a newer version).

F-29 RETALIATOR (★★)
(Am/ST/I; #69,72,85,87) Ocean; Martin Kenwright; 1990; $39.95
Int/Air/Tac/1-2; M
An ultra-modern fighter simulation, this product was distinguished by its relatively moderate release cost. However, it is rather generic in nature.

F-117A (★★★+)
(I; #89) MicroProse; Jeff Briggs; 1991; $69.95
Adv/Air/Tac/1
The third-generation of Stealth simulations, this was even more detailed and graphically rich, but recommended only for those who are experts in the genre.

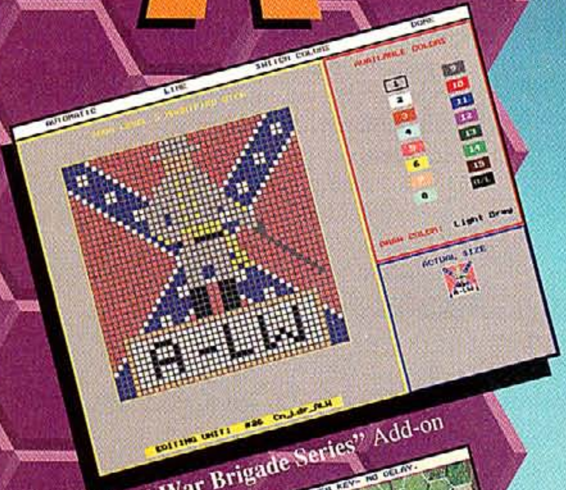
F/A-18 INTERCEPTOR (N-R)
(C/Am; #50) Electronic Arts; Robert Dinnerman; 1989; $49.95
Beg/Air/Tac/1
A flight simulator limited to the San Francisco airspace.

FALCON 3.0 (N-R)
(I; #76,83,92,93,106,108) Spectrum HoloByte; Gilman Louie; 1991; $79.95
Adv/Air/Tac/1-2; M
Falcon is not a game system as much as it is a way of life. Possibly the most complex air simulator ever released for the commercial sector, its newest version (3.0) requires DOS 5.0, a 486-33MHz computer and a math co-processor. The manual is consistent with the game and uses a layered level of teaching flight operations. Recommended for the serious power user! Two scenario disks have been released for the *AT* versions—*Operation Counterstrike* and *Operation Firefight* (*Amiga* and *ST* only) at $24.95 and $49.95 respectively. *Operation Fighting Tiger* was released for 3.0 in 1992; it covers operations in Korea, Pakistan/India and the Kurile Islands. *MiG-29* allows a new aircraft to engage the Falcon. Finally, for those who are unable to determine the "how-to"s, Spectrum HoloByte has released *Art of the Kill*, a book/videotape tutorial on modern fighter tactics.

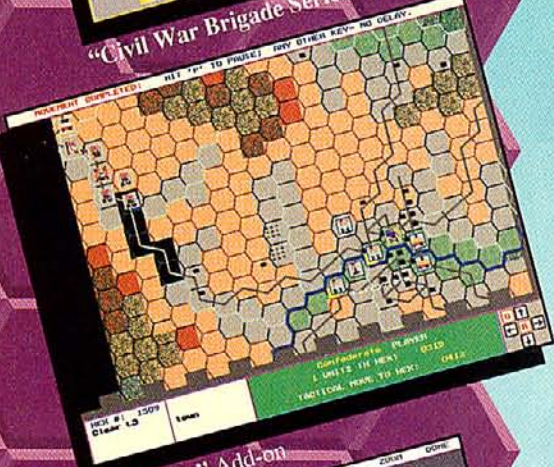
FALKLANDS '82 (★)
(C; #34,37) Firebird; John Bethell; 1985; O/P
Bas/Air-Land-Nav/Op/1
Simulation of the Falklands Conflict, it made up in price value what it lacked in historical accuracy. But it has aged poorly and offers little for the contemporary wargamer in either history or play value.

FIFTH ESKRADA (N-R)
(C/Ap/ST; #4.4,5.2) Simulations Canada;

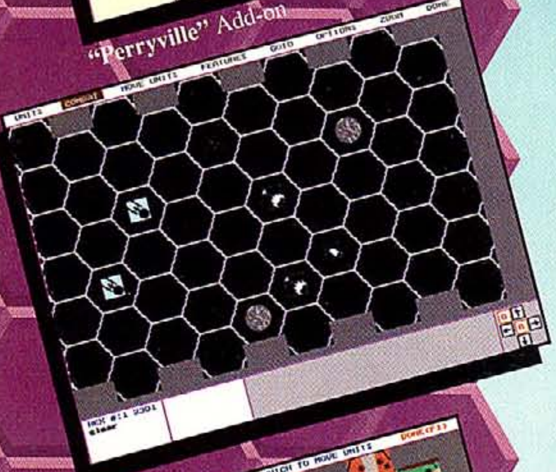
AIDE DE CAMP

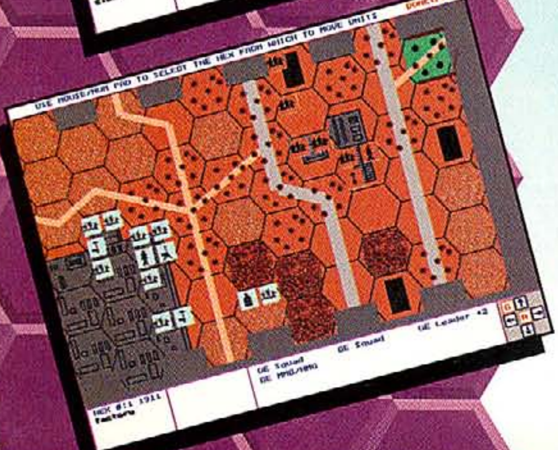


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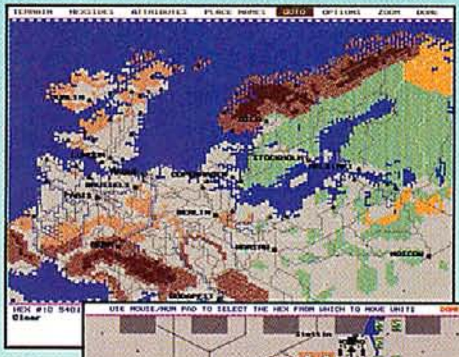
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W.J. Nichols; 1984;
$60
Int/Air-Sea/Op/1-2

FIREPOWER (N-R)
(C/GS/I; #42,88) Activision/Microillusions; Reichart von Wolfshield; 1987; O/P
Beg/Land/Tac/1-2; M
A modern combat simulation with helicopter support, it is basically an arcade product.

FLIGHT OF THE INTRUDER (★★★)
(Am/ST/I; #68,69,74,75,76) Spectrum HoloByte; Rod Hyde; 1990; $59.95
Adv/Air/Tac/1
A complex flight simulator of Vietnam air operations. Although relatively detailed and accurate, it seemed to garner the same popularity as the Vietnam Conflict.

GEOPOLITIQUE 1990 (★+)
(C/Ap; #4.1) Strategic Simulations Inc.; Bruce Ketchledge; 1983; O/P
Int/Dip/St/1
Power politics in the 1980s; graphics and reality have definitely rendered it obsolete.

GERMANY 1985 (N-R)
(C/Ap; #3.3,5.1) Strategic Simulations Inc.; Roger Keating; 1983; O/P
Adv/Land/Tac-Op/1-2
Cold War nightmares rendered obsolescent by time, computer development and political reality.

GLOBAL COMMANDER (★)
(C/ST; #48,51) DataSoft; J. Wilson; 1988; O/P
Bas/Dip/Str/1
A global confrontation simulation, it bears little resemblance to reality and has limited entertainment value.

GOLAN FRONT (N-R)
(C/Ap; #5.4,5.5) Simulations Canada; W.J. Nichols; 1985; $60
Int/Land/Tac/1-2

GULF STRIKE (★★)
(At/Ap/C/I; #4.5,5.1) Avalon Hill; Mark Herman and Winchell Chung; 1984; O/P
Int/Air-Land-Nav/Op/1-2
Based on the more successful boardgame of the same name, its play mechanics are clumsy. However, its graphics are even worse, and the color scheme has to be one of the poorest ever seen in the computer field.

GUNBOAT (★★+)
(Am/I; #68,71,72) Accolade; Tom Loughry; 1990; $49.95
Int/Nav/Tac/1
A simulation of Vietnam riverine operations, it is more of an arcade game. However, it does cover a combat aspect never attempted before. The graphics are similar to *Steel Thunder* by the same designer.

GUNSHIP (★★★)
(C/ST/Am/I; #34,35,38,CGF Winter 1987) MicroProse; Arnold Hendrick; 1986; $54.95
Int/Air/Tac/1
When initially released, this was THE helicopter simulation. Good graphics coupled with excellent game play made this a classic.

GUNSHIP 2000 (★★★★)
(I; #89,91) MicroProse; Jim Day; 1991; $69.95
Int/Air/Tac/1
An update of *Gunship*, it covers several rotary-wing aircraft in various theaters. Probably the best helicopter simulation currently available on the market, but be sure to get the updated version with its better collective implementation.



HALLS OF MONTEZUMA (★★+)
(Am/M/Ap/C/I; #42,45,75) Strategic Studies Group; Roger Keating; 1987; $39.95
Int/Land/Tac-Op/0-2
A simulation of U.S. Marine operations from the Mexican War to Vietnam based on the *Battle Front* system.

HARPOON (★★★★★)
(AM/M/I; #62,65,66,68,69,70,75,82,85,94,96, 109, 110) Three Sixty; Gordon Walton (Mike Steele, Daniel Dearing and Jesse Spears); 1988; $59.95, Battle Sets $29.95, Challenger Pak $79.95, Designers' Series $39.95
Adv/Naval-Air/Tac-Op/1
The best simulation of contemporary naval warfare, it is kept current through release of new "battlesets" (to date, *GIUK*, *North Atlantic*, *Med*, and *Gulf*), plus 48 new scenarios in the *Designer Series*. Detailed and intricate, yet easy to learn, it can teach valuable lessons while remaining an entertaining gaming experience.

HARPOON II (N-R)
(I) Three Sixty; Carl Norman; 1993(?); xxx
Adv/Naval-Air/Tac-Op/1
The new adaptation of *Harpoon*, with a November 1993 release date. Since the original *Harpoon* has been out for almost a year, one wonders... But a minimum 386-machine configuration is suggested, although to be more realistic, probably a 486-50MHz or better would be a better guess. More realistic sonar and radar operations, weather, upgrade in AI—it should be enough to keep the naval aficionados glued to their computer until Groundhog Day.

HARRIER COMBAT SIMULATOR (★★)
(ST/I; #48) Mindscape; Mirrorsoft; 1988; O/P
Beg/Air/Tac/1
A newer version of *High Roller*, still marred by a restricted area of operations and clumsy mechanics.

HEAVY METAL (★★)
(C/I; #53,54,57) Access; Brent Erickson; 1989; $39.95
Beg/Land/Tac/1
A tank simulation, more akin to an arcade product than a serious simulator.

HIGH ROLLER (★+)
(I; #33) Mirrorsoft; xxx; 1986; O/P
Int/Air/Tac/1
A simulator of the *Harrier* jump-jet, it is marred by an overly restrictive environment and mediocre graphics.

HUNT FOR RED OCTOBER (★+)
(C/Am/ST/I; #30,32,46,48) DataSoft; Oxford Digital Enterprises; 1984; O/P
Int/Nav/Tac/1
Based on the Tom Clancy novel, this simulation sold well in a movie tie-in, but probably did more to turn off purchasers to the wargame genre than any other product. Slow and clumsy mechanics yielded an ultimate failure as a gaming experience.

JET (★+)
(A/Ap/C/M/Am/I; #5.5,50) SubLogic; Charles Guy; 1985; O/P
Adv/Air/Tac/1-2; M
A flight simulator with a mediocre F-16 and F-18 combat option. As interesting as *Flight Simulator* (the *original* version).

JET COMBAT SIMULATOR (N-R)
(C; #25) Epyx; Firebird; 1986; O/P
Beg/Air/Tac/1
An F-15 simulator, with little entertainment value.

JETFIGHTER: THE ADVENTURE (★★+)
(I; #58) Brøderbund; Bob Dinnerman; 1988;

$49.95
Adv/Air/Tac/1
Detailed graphics and play value, although the basic scenario (occurring in the United States) was tenuous at best. The first simulator to require tone acquisition *a la Top Gun*; still an entertaining product.

JETFIGHTER II (★★★)
(I; #86,87,88) Velocity; Bob Dinnerman; $69.95; 1991
Adv/Air/Tac/1
A sequel to *Jetfighter*, it has contemporary graphics and play value.

JUMPJET (★★★)
(I; #108) MicroProse; Mike Brunton; 1993; $69.95
Int-Adv/Air/Tac/1
A detailed flight simulator, but missing the campaign ambiance of *AV8B Harrier Assault*. Similar to *F-19* in scope, more was expected than was produced.

LHX (★★)
(I; #68,72) Electronic Arts; Brent Iverson; 1990; $59.95
Int/Air/Tac/1
A simulation of helicopter combat, it enjoyed more popular success than I thought it deserved.

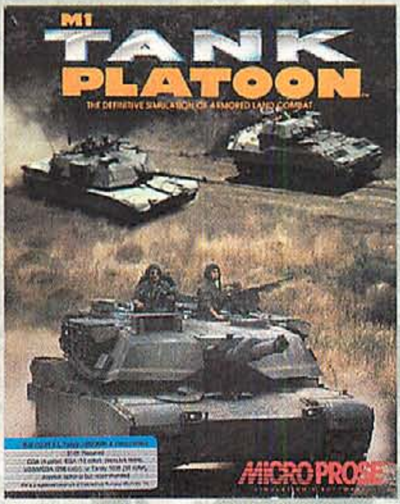
LINE IN THE SAND (★★+)
(I; #101) Strategic Simulations, Inc.; Flint Dille and Lee Chin; 1992; $39.95
Int/Op/Land-Air/1-4
A faithful adaptation of GDW's boardgame, this simulation is not an accurate representation of the Gulf War. The game is akin to a static line World War I battle, which does not prevent it from being entertaining, just from being accurate. Actually, the other scenarios involving potential flashpoints between Israel and the Arab nations are more interesting with their diplomatic and military options.

LOST PATROL (0)
(Am/ST/I; #72,81) Ocean; Ian Harling; 1989; $49.95
Int/Land/Tac/1
Attempt to bring your patrol home from a grueling mission in Vietnam. The underlying thesis is interesting, but keyboard input is awkward and too slow, while joystick input is so poorly done that the entire game is totally unplayable. See *Seal Team* for a more accurate and enjoyable simulation.

M-1 TANK PLATOON (★★★★)
(Am/ST/I; #62,65,66,66,71) MicroProse; Arnold Hendrick; 1989; $69.95
Adv/Land/Tac-Op/1
Arguably the best armor simulation available on the market. Richly textured and complex, it succeeds more than most of its competition. However, the computer has still not shown itself to be a valid platform for detailed land graphics in a fast-moving environment.

MAC ARTHUR'S WAR (★★★)
(C/Ap; #53,57,61,63) Strategic Studies Group; Roger Keating and Ian Trout; 1989; $40
Int/Land/Tac-Op/0-2
A simulation of Korean War battles using the *Battle Front* system. Since most gamers are relatively unfamiliar with the War, the scenarios prove intriguing and challenging.

MAIN BATTLE TANK: CENTRAL GERMANY (N-R)
(Ap/ST/I; #65,68) Simulations Canada; Steven Newberg and Stephen St. John; 1989; $60
Int/Land/Tac/1-2
The classic NATO-Warsaw Pact confrontation, planned for decades, occurs across the Fulda Gap as V Corps prepares to trade space for time. Per SimCan standard, there are no graphics. Command level is at the regiment/battalion level.



MAIN BATTLE TANK: MIDDLE EAST (N-R)
(I; #94,96) Simulations Canada; Steven Newberg and Stephen St. John; 1992; $60
Int/Land/Tac/1-2
An adaptation of the non-graphic battle representation in the Middle East.

MAIN BATTLE TANK: NORTHERN GERMANY (N-R)
(I; #80) Simulations Canada; Steven Newberg and Stephen St. John; 1991; $60
Int/Land/Tac/1-2
The British Army of the Rhine attempts to stem the Warsaw Pact as it crosses the North German plain (see *Main Battle Tank: Central Germany* for similar treatment in the adjacent theater).

MECH BRIGADE (★★+)
(A/C/Ap/I; #5.4,29,33,37,43,48) Strategic Simulations Inc.; Gary Grigsby; 1985; O/P
Int/Land/Op/0-2
A successor to *Kampfgruppe*, it is a CGW Hall of Famer, although I thought that honor to be unduly awarded. Contemporary warfare, but dated (both politically and in terms of state-of-the-art).

MEGAFORTRESS (★★★★)
(I; #74,76,81,89,90) Three Sixty; Rick Banks and Paul Butler; 1991; $49.95
Adv/Air/Tac-Op/1
Normally, I find simulations of tactical bomber operations intrinsically dull. After all, one flies a bus-like lumbering aircraft to a point, drops a bomb and flies home. However, Three Sixty has made a difference, and this simulation is both realistic and entertaining. Excellent graphics and play mechanics make this a program definitely worth looking at. Scenario disks, *Operation Sledge Hammer* and *Operation Skymaster* have been released.

MIG ALLEY ACE (★★)
(A/C; #4.2,4.3) MicroProse; Andy Hollis; 1984; O/P
Beg/Air/Tac/1-2
An early MicroProse release, it is obsolete other than as an item of curiosity. The first flight simulator to use split-screen graphics for two players.

MIG-29 (★★★★)
(I) Spectrum HoloByte; Gilman Louie; 1993; $59.95
Adv/Air/Tac-Op/1-2; M
Billed as the "Deadly Adversary of Falcon 3.0," this flight simulator requires *Falcon 3.0* in order to run. The plane itself is nowhere near as sophisticated as the *Falcon*, but American and Soviet technologies differ in demand and design. This is a mandatory addition to a grognard's collection. For the casual weekend flyer, an easier simulation should be seriously considered.

Mig-29 FULCRUM (★★+)
(I; #81,94) Domark; John Kavanagh; 1991; $49.95
Adv/Air/Tac/1
A good example of pricing differentials, it was originally released as a European import at a price of $79.95. Billed as the most realistic flight model available of the MiG-29, its armaments are not realistic and overall, it lacks the panache of other releases.

MODEM WARS (N-R)
(I) Electronic Arts; Dan Bunten; 1988; O/P
Beg/Land/Tac/1-2; M
A modem game of armor combat in a quasi-football type environment.

MRCA MACH 2 COMBAT FLIGHT SIMULATOR (N-R)
(A; #35) Firebird; Firebird Licensees, Inc.; 1986; O/P
Beg/Air/Tac/1
An early F-15 combat flight simulator.

NAM (★+)
(A/C/Ap; #28) Strategic Simulations Inc.; Roger Damon; 1985; O/P
Int/Land/Tac/1
A simulation of various Vietnam actions, its graphics were mediocre, but its historical lessons were wrong, wrong, wrong. Mildly entertaining, but very misleading as to the effects of fire support and small unit tactics.

NATO COMMANDER (★★+)
(A/Ap/C; #4.1) MicroProse; Sid Meier; 1983; O/P
Int/Land-Air/Op-St/1
The predecessor to MicroProse's *Command* series, this operational simulation of war in modern Europe (US-Soviet) has become time obsolete (both in mechanics and reality). Yet, it was easy to play and enjoyable.

NAV COM 6: THE PERSIAN GULF DEFENSE (N-R)
(C/I) Cosmi; Paul Norman and Robert Bonifacio; 1988; O/P
Int/Nav/xxx/1
A combat simulator from the viewpoint of the CIC in a Navy cruiser.

NAVY SEAL (N-R)
(C/I; #61) Cosmi; Paul Norman; 1989; $29.95/$34.95
Beg/Land/Tac/1
An arcade treatment of SEAL operations. See *SEAL Team* for a much better and more realistic product.

NORTH ATLANTIC 86 (N-R)
(Ap/M; #3.6) Strategic Simulations Inc.; Gary Grigsby; 1983; O/P
Int/Nav-Air-Land/Op/1-2
An early game of US-Soviet conflict at sea.

NORTHERN FLEET (★★★+)
(C/Ap/M/ST/I; #62) Simulations Canada; Steven Newburg; 1989; $60
Int/Nav/Op/1-2
US-Soviet fleet confrontations in the "BOD" ("Bad Old Days"); no graphics, but an interesting and thought provoking simulation nevertheless.

NORWAY '85 (N-R)
(C/Ap; #29) Strategic Simulations Inc.; Roger Keating; 1985; O/P
Int/Land/Op/1-2
US-Soviet confrontation in Norway. Times change, machines change, RIP.

NUCLEAR WAR (★★★+)
(Am/I; #63,65,68,69,75) New World; Eric L. Hyman; 1990; $49.95
Bas/Dip/Str/1
A "tongue-in-cheek" game of global destruction, it is not intended to be a simulation but rather a mild diversion. As such, it can be fun, although its emphasis on massive casualties will never win it a "political correctness" award.

OCEAN RANGER (N-R)
(C; #52,55) Activision; Kevin Patrick; 1988; $34.95
Beg/Nav/Tac/1
An arcade-like simulation of a hydrofoil (see *PHM Pegasus* for a more accurate rendition).

OPERATION COM★BAT (N-R)
(Am/M/I; #75,76) Merit; Scott Lamb; 1990; $49.95
Int/Land/Tac/1-2; M
An armor-intensive modem capable wargame.



OVERRUN (★★+)
(C/A/Am/I; #60,61,63) Strategic Simulations Inc.; Gary Grigsby; 1989; $59.95
Adv/Land/Tac/1-2
A newer version of contemporary conflict than *Mech Brigade*, it is on a smaller scale and requires much time and effort. Lack of a strategic map often leaves the player in confusion and unable to coordinate his force into a cohesive attack or defense plan.

PATRIOT (N-R)
(I; #105, 113) Three Sixty; Rick Banks; 1992; $69.95
Adv/Land-Nav-Air/Op/1
A simulation of the Gulf War, I have now done two reviews on *Patriot* and still refuse to give it a rating. The original product, the *Harvard Graphics* of Wargaming, was unplayable—a dog among dogs, etc., etc. However, Three Sixty has issued an upgrade which may in fact merit another look. There is no question that the product is novel and not easily accessible; the question remains whether or not there is a serious simulation worthy of consideration. Stay tuned.

PERFECT GENERAL: Greatest Battles of the 20th Century (★★+)
(I; #108) QQP; Bill Sarubi; 1993; $29.95
Int/Land/Tac-Op/1-2
A scenario disk to *Perfect General*, the simulation is easy to learn. The scenarios are enjoyable, but their historical verisimilitude is subject to question. If you liked the original, play on....

PHM PEGASUS (★★+)
(C/Ap/I; #36,39) LucasArts; Noah Falstein; 1986; O/P
Int/Nav/Tac-Op/1
A hydrofoil simulation, this game has good graphics and play value, although the scenarios are intrinsically less interesting than one would have hoped. *Strike Fleet* uses a similar system and is a more interesting product.

POINT OF ATTACK (★★★)
(I; #104) HPS Simulations; Scott Hamilton; 1992; $54.95
Adv/Land/Tac-Op/1-2
The most accurate simulation currently available on "Air Land Battle," this simulation portrays small unit actions in the Gulf War. It is detailed and historically correct, but the graphics are marginal and the user interface is not overwhelmingly friendly.

PLATOON (N-R)
(C/ST/I; #52) DataEast; Ocean; 1986; O/P
Beg/Land/Tac/1
See the movie; play the game. Vietnam small-unit tactics in an arcade mode shows another example of tie-ins rarely being successful.

POWER POLITICS (★★+)
(I; #99) Cineplay; Randy Chase; 1993; xxx
Int/Pol/Str/1
A *Windows* game on the Presidency, *Power Politics* is an interesting and graphically well-executed simulation of the 1992 Campaign. Run a historical candidate or a created one (you can be all things to all people, or can you?). While a database includes virtually all candidates from 1960 onwards, they run only in the 1992 milieu—a serious flaw. Quemoy and Matsu do not translate well into contemporary economic issues.

PROJECT STEALTH FIGHTER (★★)
(C; #42) MicroProse; Jim Synoski; 1987; O/P
Adv/Air/Tac/1
MicroProse's first release of a Stealth Fighter simulation, this was characterized by good graphics and game play at the time. However, it has been superseded by later releases, e.g.


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F-19 and *F-117.*

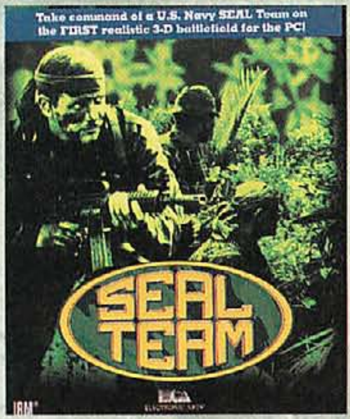
RAPCON (★★★)
(I) Wesson International; Robert Wesson; xxx; xxx
Adv/Air/Tac/1
The military version of *Tracon,* this is a detailed simulation, and quite interesting. However, its basic subject matter appeals to a narrow market. For those having such interests, Wesson International does an excellent job.

RDF 85 (N-R)
(Ap/C) Strategic Simulations Inc.; Roger Keating; 1983
Int/Land/Op/1
Part of the *When Superpowers Collide* series, this NATO-Warsaw Pact confrontation is obsolete by design and time.

RED LIGHTNING (★★)
(ST/Am/I; #62,63,64) Strategic Simulations Inc.; Norman C. Koger, Jr.; 1989; $59.95
Adv/Land/Op/1-2
Focusing on World War III in Central Europe, this game has some interesting concepts (e.g. forward deployment of subordinate units albeit at a cost of added fatigue), but the user-friendliness/clumsiness of inputs is so awkward as to make the product a tedious chore rather than an interesting or enlightening experience.

RED SKY AT MORNING (★★+)
(I; #112) Simulations Canada; Steven Newburg; 1993; $60
Adv/Nav/Op-Str/1
A simulation of world-wide naval war, including potential nuclear release. One of the first SimCan games with graphics, it is somewhat awkward, but does show potential for future products.

RED STORM RISING (★★★+)
(C/Am/ST/I; #49,52,53,55,64) MicroProse; Sid Meier; 1988; $54.95
Int/Nav/Tac-Op/1
A totally enjoyable simulation of contemporary attack submarine operations in the "Next War." Although some purists decry certain design decisions (made for playability), I consider the game to be one of the best on the market.



REFORGER 88 (★★)
(A/Ap; #5.2,5.3,5.4) Strategic Simulations Inc.; Gary Grigsby; 1984; O/P
Adv/Land/Op/1-2
A simulation of modern warfare on the Central European Front, the game has clearly been rendered obsolete both by game design standards and by historical events.

RETURN TO THE FALKLANDS (N-R)
(Ap/I) General Quarters; Owen P. Hall, Jr.; xxx; $35
Bas/Nav/Tac-Op/1-2; M
The British-Argentine War with minimal graphics.

SEA ROGUE (★★★+)
(I; #96,99) MicroPlay; James R. Jones III; 1992; $49.95
Int/Nav/Tac/1
This game is not a wargame as much as an economic simulation to find and salvage treasure and wrecks throughout the world. The graphics are well done and the research is remarkable—more than one could ever think of knowing about famous wrecks. A different sort of game, it merits serious consideration as a change of pace.

SEAL TEAM (★★★★)
(I; #106,113) Electronic Arts; Andre Gagnon and Howard Hays-Eberts; 1993; $49.95
Int/Land/Tac/1
The most detailed *SpecOps* game ever done. One cannot call the game experience necessarily enjoyable, but the Vietnam Conflict definitely comes alive. Graphically intensive, there are still some problems with resolution and joystick input, and the jungle foliage is much too sparse, but there is still something that calls one back to try another scenario. Campaigns take a SEAL team through a tour of duty, and there are over 80 missions for play value. "And it's one, two, three—what are we fighting for?!"

SEVENTH FLEET (★★★+)
(Ap/C/ST/I; #27,37) Simulations Canada; Bill Nichols; 1985; $60
Int/Nav-Air/Op/1-2
A naval simulation without graphics using a paper map and counters, it is an interesting simulation of US-Soviet operations in the Pacific.

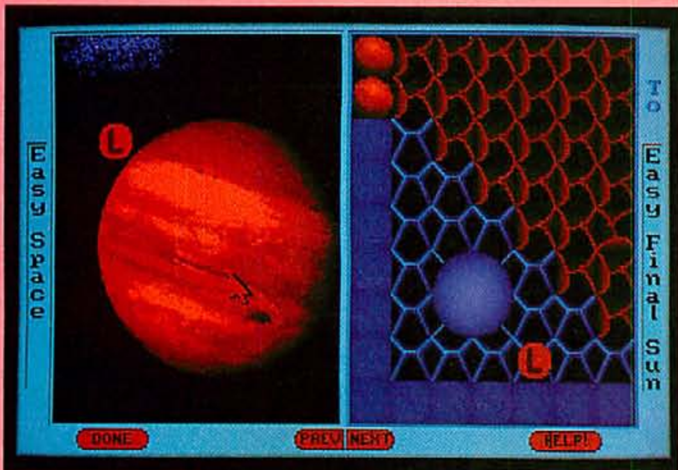
SHADOW PRESIDENT (★★★+)
(I; #99,108) DC True; Brad Stock, Robin Antonick and Charlie Athanas; 1992; $69.95
Adv/Dip/St/1
Not for the jet jockey or the immediate gratification player, this simulation is an intricate and detailed simulation of global politics from the perspective of a national leader. Containing the data from the *CIA/KGB Factbooks* and scenarios that were factual or easily could have been, it has the dreaded "highly educational" appendage, but that doesn't mean that it should be passed by.

688 ATTACK SUB (★★)
(Am/I; #59,63,64) Electronic Arts; John Ratcliff; 1989; $49.95
Int/Nav/Tac/1-2; M
A popular contemporary submarine simulation, although I have never been able to determine the reason for its popularity. Game play resembles World War II submarine operations more than the modern theater. The simulation's emphasis on periscope target acquisition is unrealistic.

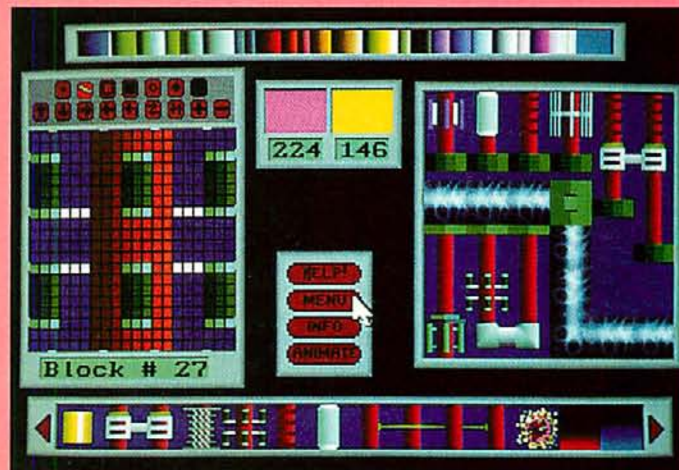
SKYCHASE (N-R)
(Am/I; #54) Maxis; Ralph Russell; 1990; xxx; xxx
xxx/xxx
A split screen jet combat game with a limited playing environment.

SKYFOX I (★+)
(C/ST/Am/I; #4.5) Electronic Arts; Jeff Tunnell; 1984; O/P

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Beg/Air/Tac/1
An arcade flight game.

SKYFOX II: THE CYGNUS CONFLICT (★+)
(C/ST/Am/I; #44,45) Electronic Arts; Jeff Tunnell; 1987; O/P
Beg/Air/Tac/1
The sequel.

SNOW STRIKE (N-R)
(I) xxx; xxx; xxx; xxx; xxx
xxx/xxx
A flight combat arcade game using drug interdiction as a framework. see *ATAC* (infra) for a similar treatment.

SOUTHERN COMMAND (N-R)
(Ap; #2.2) Strategic Simulations Inc.; Roger Keating; 1981; O/P
Int/Land/Op/1
The Yom Kippur War, covering only the Sinai Front.

SPECIAL FORCES (N-R)
(Am/I; #106) MicroProse; Sleepless Knights; 1992; $49.95
Int/Land/Tac/1
A British import, akin to *Airborne Ranger*. However, actual teams were available instead of a single "Sergeant Rock," but the user interface was not overly friendly.

STEALTH (N-R)
(At; #41,48) Brøderbund; Tracy Lagrone and Richard E. Sansom; 1984; O/P
Beg/Land-Air/Tac/1
An abstract simulation.

STEALTH MISSION (★★)
(C; #47,54) SubLogic; Steve Setzler; 1988; $39.95
Int/Air/Tac-Str/1
An early simulation of the "Stealth" fighter-bomber, it failed to keep pace with the MicroProse releases, *F-19* and *F-117*.

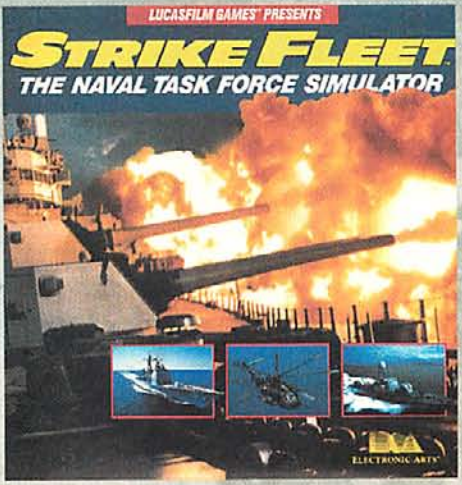
STEEL THUNDER (★★)
(C/I; #53,54) Accolade; Tom Loughry; $29.95; 1988
Int/Land/Tac/1
A tank "simulator," it was more akin to an arcade game. Still entertaining, although lessons learned have little relation to reality.

STORMOVIK (★★+)
(I; #76,77) Electronic Arts; Paul Grace; 1990; $49.95
Int/Air/Tac/1
A flight simulator from the Soviet perspective, it lacks élan. The scenarios are forced, and reflect internal dissension (which was somewhat prescient), but the missions and flight characteristics are all rather bland.

STRATEGIC CONQUEST (N-R)
(Ap/GS; #33) PBI; John L. Jamison; 1984; O/P
Beg/Land-Air-Nav/Str/1-2
Risk for the Apple.

STRIKE ACES (★★+)
(C/Am/I; #68,74,77) Accolade; Andy Craven; 1990; $39.95/$49.95;
Int/Air/Tac/1
A jet flight simulator within a *Red Flag* training exercise.

STRIKE FLEET (★★★+)
(C/Ap/Am/I; #44,46,50,57) LucasArts; Noah Falstein; 1987; O/P
Int/Nav-Air/Tacp-Op/1
Modern naval fleet actions with an emphasis on "you-are-there" perspectives. Good graphics and game play do much to overcome certain historical inaccuracies (sacrificed for playability), but switching from bridge-to-bridge to effect changes can be an awkward experience.



SUB VERSION 1.0 (N-R)
(Am/M/I; #105) Point of View; xxx; xxx; $59.95
Int/Nav/Tac-Op/1-2
A "cat-and-mouse" game reflecting little of reality.

SUEZ 73 (N-R)
(Am/I; #76) RAW; Al and Joseph Benincasa; 1991; $49.95
Adv/Land/Op/1-2
The Battle of Chinese Farm in the 1973 Arab-Israeli War. This program was initially slated for release in 1987, but was delayed until 1991 when the designers signed with a new distribution company.

SUPER HUEY I (★+)
(A/C; #5.5) Cosmi; Paul Norman; xxx; $12.95
Beg/Air/Tac/1
More of a flight simulator than a combat model, it is characterized by clunky graphics and game play.

SUPER HUEY II (★+)
(A/C; #44,46) Cosmi; Paul Norman; 1988; $12.95
Beg/Air/Tac/1
The sequel to *Super Huey I.*

TANK (★★★)
(I; 61,62,65,68) Spectrum HoloByte; R. Anton Widjaja; 1989; $54.95
Adv/Land/Tac-Op/1
A modern tank simulation, it is similar to *M-1 Tank Platoon*, but it covers certain aspects in a better fashion, especially larger unit operations. However, terrain slope remains a significant problem.

TANK PLATOON (★)
(Ap; #3.5) Dataworks; xxx; 1983; O/P
Beg/Land/Tac/2
An early tactical wargame in which each player has ten units. It is interesting to see just how primitive and virtually unplayable it looks today.

TEAM YANKEE (★★)
(Am/I/ST; #74) Empire; Steven Green, Richard Horrocks; $59.95; 1990
Int/Land/Tac/1
An arcade-like product trying to pass as a simulation of modern tactical armored warfare.

TEAM YANKEE 2: THE PACIFIC ISLANDS (N-R)
(Am/I/ST; #92) Empire; xxx; $59.95; 1992
Int/Land/Tac/1
If at first you don't succeed....

TEAM YANKEE 3: WAR IN THE GULF (N-R)
(Am/I; #110) Empire; xxx; 1993; $49.95
Int/Land/Tac/1
OK, so somebody likes the system. Just don't expect realism or accuracy.

THEATER EUROPE (★★+)
(A/C/Ap; #29,34,39) DataSoft; Ian Steels; 1986; O/P
Int/Land/Str/1
A US-Soviet confrontation in Central Europe; rendered obsolete by history and game play.

THEATRE OF WAR (★★+)
(I; 97,102) Three Sixty; Bill Banks; 1992; $49.95
Int/Land-Air/Op (Abstract)/1-2; M
A wargame first—that is, first *SVGA* release. This is its biggest claim to fame; takes the worst aspects of chess and wargaming and bundles them into a mediocre product.

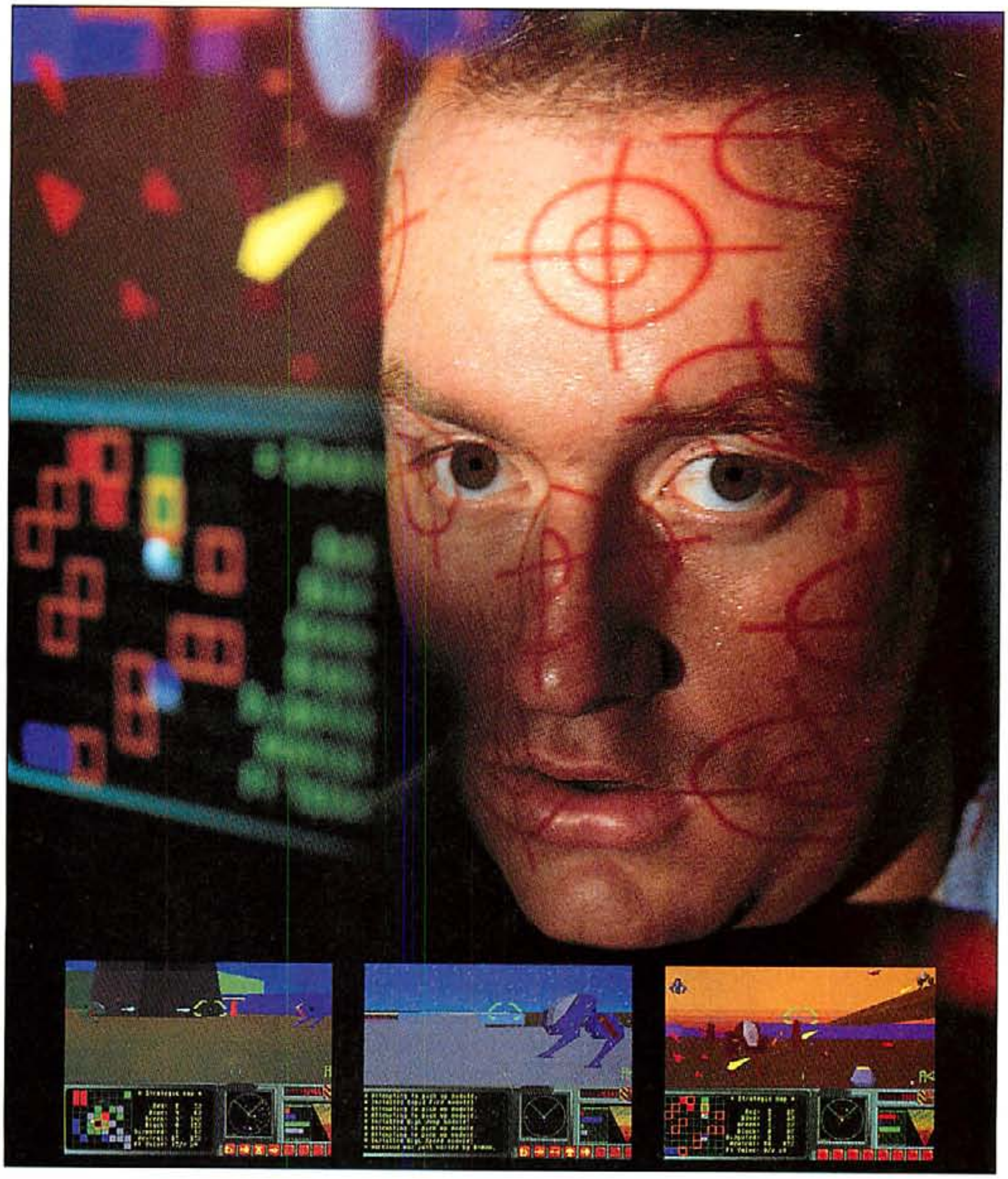
3-D HELICOPTER (N-R)
(I; #44) Sierra; Joe Wofford; 1987; O/P
Int/Air/Tac/1-2; M
A helicopter simulation whose graphics were

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slow and clunky when originally released; time has done nothing to improve its flavor.

THUD RIDGE (★★)
(Am/I; #55) Three Sixty; Acme Animations, Inc.; 1988; O/P
Int/Air/Tac/1
One of the earlier Vietnam combat air simulations, it appears obsolete in the current marketplace.

THUNDER BLADE (N-R)
(I; #60) Mindscape; xxx; xxx; xxx; xxx
xxx/xxx
An arcade helicopter combat simulator.

THUNDER CHOPPER (★★)
(C/Ap/I; #42,44,60) SubLogic; John B. Rosenow; 1989; O/P
Int/Air/Tac/1
Helicopter simulation; of little interest or game play, except it could also use *Flight Simulator* scenery disks.

THUNDERHAWK (N-R)
(Am/I) Virgin; Mark Avory; $39.99; 1992
Int/Air/Tac/1
A helicopter simulation.

TOMAHAWK (★★)
(A/C; #42,44) DataSoft; D.K. Marshall; 1987; O/P
Int/Air/Tac/
A helicopter simulation with mediocre graphics and game play.

TOP GUN (N-R)
(I) Ocean; xxx; 1987; xxx
Beg/Air/Tac/1-2
A split screen flight combat simulator.

TOP GUN: DANGER ZONE (N-R)
(I) Konami; xxx; 1991; $49.95
Beg/Air/Tac/1-2
An arcade flight simulator.

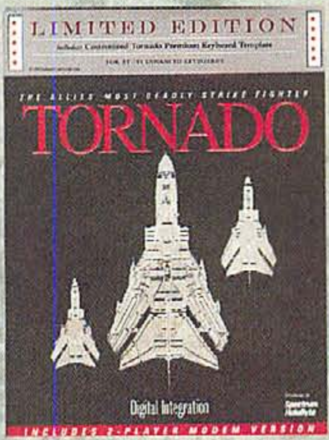
TORNADO (★★★+)
(I; #111) Spectrum HoloByte; Digital Integration; 1993; $79.95
Adv/Air/Tac-Op/1-2; M
A detailed simulation of the British *Tornado*, it has more details than most users would ever need to know, but for the serious flight jockey, it is recommended.

U.M.S. (★★)
(ST/Am/I; #43,48,51) Firebird; Ezra Sidran; 1987; $49.95
Int/Land/Op/0-2
A wargame design kit, characterized by easy design parameters. However, accuracy is sacrificed for playability, and often playability is sacrificed for graphic display. Maritime operations are ignored, so its universality is not "complete." A Vietnam scenario disk has been released. It will visually impress your friends, although it is clumsy and awkward.

U.M.S. II (★★+)
(M/Am/I; #74,75,87) MicroPlay; Ezra Sidran; 1991; $59.95
Int/Air-Land-Nav/Op-Str/0-multi
A newer version of *U.M.S.*, with more emphasis on strategic operations. A visual feast and a playability desert. The "design-your-own" disk is marketed separately. MicroPlay never really supported the product, and the designer himself stepped in to offer superb customer support. The designer has released a *Desert Storm* disk, and he has been working on a Yugoslav Intervention scenario as well.

UNDER THE ICE (★+)
(ST/I; #54,59) Lyric; John Almberg; 1989; $39.95
Adv/Nav/Tac/1-2
A contemporary submarine simulation, defeated by clumsy and ill-defined mechanics.

VC (N-R)
(Ap; #2.5) Avalon Hill; Britt Monk; 1982; O/P
Beg/Land/Tac/1
A tactical simulation of Vietnam—almost as enjoyable as the real thing, i.e. not very. Obsolete and hopefully forgotten.



WARGAME CONSTRUCTION SET (N-R)
(C/A/I/ST/Am; #34,37,75) Strategic Simulations Inc.; Roger Damon; 1986; O/P
Int/Land/Tac-Op/1-2
Basically, the user-modifiable source code of Roger Damon's previous works *(Operation Whirlwind, Field of Fire, Panzer Grenadier)*, the game's potential to design-your-own scenarios is limited by the failings of the system's mechanics. It is most applicable to the World War II era. A novice may well find its flexibility interesting, although the graphics are dated.

WINGMAN (★+)
(A/C) MicroProse; Andy Hollis; 1982; O/P
Bas/Air/Tac/1
A very early flight-combat game. Of interest only to the collector. CGW

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DOWNWIND FROM GETTYSBURG



Edward Grabowski's The Blue and the Gray

by M. Evan Brooks

Edward Grabowski's The Blue and the Gray (B&G), **Impressions**' simulation of the American Civil War, is actually two separate games in one package. On one level, the strategic level, the game covers the Civil War from Maine to Florida and from the East Coast to west of the Mississippi River in a weekly, turn-based simulation. On another level, the tactical level, individual battles are fought using the familiar Impressions' Micro-Miniatures system.

Winning battles and holding cities is the key to victory. Each battle won and each city held is a "victory point," while the capital cities of Washington and Richmond are worth ten victory points. When the point difference between two players reaches 100, the game is over.

Johnny Rebel Can Read

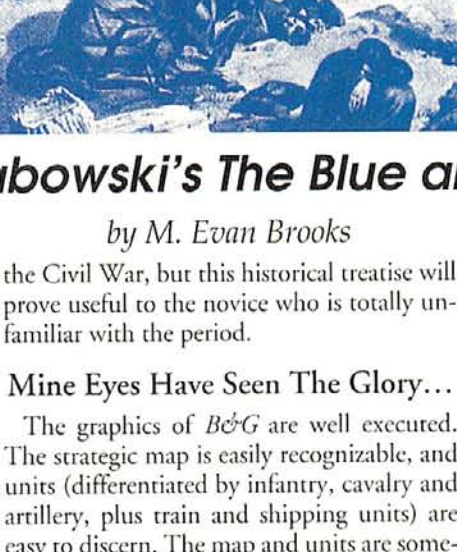
The documentation consists of four manuals: a technical supplement and tutorial, a campaign manual, a micro-miniatures battle manual, and a history of the American Civil War. In addition, a video of the Civil War has been packaged with limited edition versions.

The documentation is relatively clear, concise and easy to understand. The technical supplement contains tutorials for both the campaign and the battle systems, and by following the written word, you can quickly grasp the nuances of the system. This is not to say that victory is easily grasped. Only careful planning will ensure victory for either side, although you will have to continuously access the manual to clear up details of the play mechanics.

The historical manual is a bonus. It has nothing to do with the game, since the game itself has little to do with the actual course of the Civil War, but this historical treatise will prove useful to the novice who is totally unfamiliar with the period.

Mine Eyes Have Seen The Glory...

The graphics of *B&G* are well executed. The strategic map is easily recognizable, and units (differentiated by infantry, cavalry and artillery, plus train and shipping units) are easy to discern. The map and units are somewhat reminiscent of the classic boardgame from **Game Designers Workshop**, *A House Divided*.



In tactical mode, the units are rendered larger and are appropriate to the context. Similar to Impressions' prior efforts (*Conquest of Japan, Cohort II*, etc.), you will have little difficulty in recognizing your army. As an added bonus, you may vary the uniforms of your troops within certain parameters. This is a cosmetic change only, but it does reveal the designer's eye for detail.

The sound support for *B&G* is superb. Blasts from artillery and cracks of musketry ring across the battlefields of the tactical system. The strategic system uses music as a background when different events occur, and the songs are very recognizable: *Battle Hymn of the Republic, Roll, Alabama, Roll, Fall of Charleston* and *Goober Peas*. I particularly enjoyed the last, although I have to admit that my generation associates *Goober Peas* with Burl Ives (anyone over 40 will know what I mean). But I do admit a sense of disappointment in that three classic songs were omitted: *Rally Round the Flag, Marching Through Georgia* and *Dixie*. While *Dixie* may be considered politically incorrect, it does recall the antebellum and war-time South (though the song was composed by a Yankee); besides, if certain contemporary designs can use the *Horst Wessel Song (Die Fahne Hoch)* for background music (and it is *much* more objectionable), I think that *Dixie* could have been used here.

Miniature Hordes

The Tactical System: Units are represented by graphic counters. Orders may be issued to individuals, groups or armies, and the system is reminiscent of miniatures wargaming. As a board wargamer with over 25 years of experience, I never developed an interest in miniatures. The Impressions' system does little to stir my interest.

Edward Grabowski's The Blue and the Gray



NAME:	Edward Grabowski's The Blue and the Gray
PRICE:	$69.95
SYSTEM:	Amiga, IBM
REQUIREMENTS:	IBM: 286 or better, VGA graphics, 2.6MB hard drive space, mouse; supports AdLib (Gold), Aria, Gravis UltraSound, Roland, Sound Blaster (Pro) sound cards
# PLAYERS:	1-2
PROTECTION:	None
DESIGNER:	Edward Grabowski
PUBLISHER:	Impressions Cambridge, MA (617) 225-0848



No matter what size army, the display is limited to 115 units. The size varies based on division size, and obviously weaker units are much more brittle. The system is workable, but clumsy. With over 100 battles to fight, it is all too easy to use the "Autoplay" function. While a tactical gamer may often generate a battlefield victory that the "Autoplay" would not, the amount of time required to fight each battle of the Civil War can become overwhelming.

The Strategic System: The map uses a *Windows*-like system. Units are accessed via the right mouse button, while movement orders are issued with the left mouse button. It is simple, but it does require some adjustment. In order to scroll the map, you merely hit the scroll bars on the edge and bottom of the map display. While this is easy to say, it is also easy to try to scroll the map by using the mouse pointer. This will often move the currently selected unit, and if you are not careful, incorrect movement orders will be issued. Luckily, an "undo" command is available, although it only undoes the most recent order. Just remember to be careful in scrolling the map and all will be well.

Point and click, and units move to their destination. However, ships and railroad units often must be moved hex-by-hex. Interestingly enough, you can take advantage of the system by cutting a corner here and there to save an entire movement point (thereby giving new meaning to getting there "fustest with the mostest").

At significant dates, a screen will appear explaining a historical battle. These interludes are interesting, although rarely will a game remotely resemble the history, and it can be somewhat disconcerting to see a description of the Battle of Antietam when you have just concluded the Third Battle of Philadelphia.

There are no significant "bugs" in the system; however, an occasional unit will refuse to detrain. This can be worked around by merging the unit into another division.

At The Front

The Tactical System: Impressions has included the tactical battle of Bull Run as a "bonus," and additional historical scenarios are promised (as well as a modem option). The tactical battles are named after the closest city (more representative of the Confederate style; Union forces named battles after geographic features such as rivers [e.g. Manassas/Bull Run; Sharpsburg/Antietam]), or you have the option to name the battle yourself.

Artillery is the "King of Battle." Judiciously placed field artillery (in a semi-Napoleonic grand battery) moving up to create a "kill zone" and coupled with cavalry flanking maneuvers can be used with great success. The computer rarely takes the offensive until its troops are well-trained, and careful planning will defeat a superior army. This simple strategy works well: Examine the forces and place rifles in a position so that they can engage musket-equipped enemy forces without risk.



The geography of the battle is necessarily artificial, and I rapidly grew disenchanted with the system.

The Strategic System: It looks like *A House Divided*, but it plays like *Parcheesi*. The miss-

Even Confederate Generals Trained At West Point

Strategic Considerations For Generals Of Both Armies

Troop quality is decisive, and the South does begin with an advantage (their cavalry is average instead of poor). Therefore, you should try to engage in small lopsided battles to "see the elephant" and raise the quality of your troops. The South cannot afford to delay reinforcements for training; it takes three months and the North's reinforcements will render this loss as irretrievable. Thus, it will train on-the-job; the North should use its initial reinforcements for garrison troops and then train up later reinforcements. Both sides may also choose to replenish existing divisions as well.

Garrisons are essential for the North. Historically, the Confederacy did not assume the offensive, for both political and military reasons. *B&G* imposes no such restrictions; Confederate cavalry should range far and wide, seizing as many cities as possible, and avoiding decisive engagement. This can work for several months, but the North should take its reinforcements in smaller divisions (e.g. 2,000 man units) and garrison *every* city.

The two most decisive regions are the Washington-Richmond corridor and Charleston, West Virginia. While the former area is historically apparent, Charleston assumes an importance quite at odds with history. Poised like a dagger at the Confederacy, it is the easiest stepping stone to the heartland. And you can raise reinforcements anywhere—including 50,000 in Charleston!

The units themselves are of consequence. While they are labeled as "divisions," they may range in size from 100 men to 60,000 or more. In effect, there is no military organization; advanced supply rules will require the player to form smaller units to establish a supply trail (which may often become the target for flanking raids like Stuart's historical ride around McClellan's Army), but the larger unit does have an advantage. Divisions should be merged when they are attritioned to small-size. But you should take advantage of this; the larger unit gives its quality rating to the smaller. Thus, you should split and merge units as to maximize the quality of the troops.

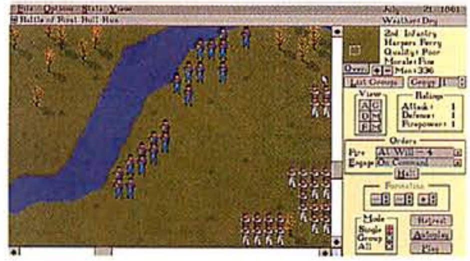
Only the initial combat unit engaged in a battle advances. While every other adjacent unit may take part in the battle, only the first unit so engaged can advance. Therefore, there is a problem of thrust and counter-thrust; if your 70,000 man force defeats a 30,000 man force, a division of 10,000 may advance and become ripe for counterattack. There are two ways to offset this: 1) maintain a unit of sufficient size to discourage attack, 2) hold back a division from the attack and advance it as part of movement to the newly-liberated area. CGW

ing elements—economics, foreign recognition and leadership—make any similarities of *B&G* to the American Civil War merely coincidental.

Economics: The Mississippi River was the lifeblood of the Confederacy. When the Union forces secured this route, it rendered impotent the economic potential of the South. Yet, securing the Mississippi has no meaning in *B&G*. In effect, you can safely ignore it and concentrate on the eastern theater (historically important for political reasons, but never militarily decisive until late in the war). Similarly, the North can never achieve an economic strangulation of the Confederacy, since seizure of cities does not affect recruiting. It would be possible to evacuate all of your cities except for one (Richmond or Washington) and wait for the enemy to batter itself senseless against entrenched forces. Railroads may be destroyed, but they are rebuilt in two weeks—possibly accurate for the North, but the South simply lacked sufficient resources to make good the destruction of its rail lines.

Foreign Recognition or Intervention: No matter how well the South does, there is no potential for foreign recognition. Historically it is debatable, but I believe that the fall of Washington would have generated foreign recognition. Similarly, fast-moving Confederate cavalry can often seize Philadelphia, New York, Lansing or even Buffalo, all without causing any significant consequences. The fall of Buffalo would have augmented the Copperhead movement for peace in the North. Even with supply rules, an army of under 15,000 troops can forage—and such a unit can range the strategic map, more akin to Confederate *panzers* than actual cavalry.

Leadership: You are the leader; you can move all or none of your troops in any manner you deem advisable. There are no command restrictions and no command advantages. While units are commanded by a historical figure, the army and commander are of cosmetic uses only. *A House Divided* compelled leadership considerations by only allowing a random number of units to be accessed per turn (a rule modification composed by *CGW's* own Alan Emrich); the early cavalry invasions were a problem, but they could be countered. *B&G* lacks such restrictions and suffers accordingly. Determining battle casualties is dependent on troop quality, but often these quality ratings are historically inappropriate. Most Civil War battles generated roughly equivalent casualties (with certain obvious exceptions such as Fredericksburg); *B&G* exhibits ratios of 3:1 or greater. One unforgettable battle had 40,000 Union infantry assaulting 1600 Confederate cavalry, resulting in 16,000 Federal and 400 Confederate casualties. It does make one wonder!



Advanced options include "fog-of-war" and supply considerations. These will create a much more challenging game, and the larger units can be cut off and wither. Amphibious invasions, reinforcement and other factors are significantly affected by these options, but overall, the victory conditions militate against any congruence of history and game play.

Marching Against Time

First "impressions" do count, and I initially was very impressed with *B&G*. It was only after delving into the system that I discovered its shortcomings. It can be fun, but you must first quash all hopes that the game will follow anything like a historical pattern. CGW

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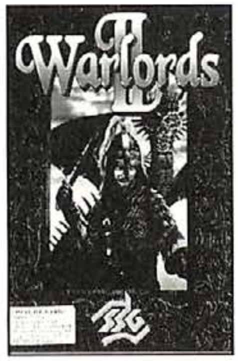
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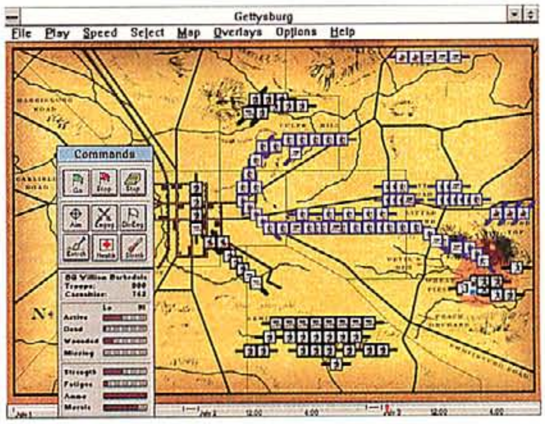
A Look at Swfte's *Gettysburg* for Windows

by Terry Coleman

With Ted Turner's Gettysburg film hitting the big screen, it was inevitable that the computer gaming hobby would see a Gettysburg release. It is amazing that there are so few American Civil War games for the computer, given that the boardgaming side of the hobby churns out at least half a dozen new ACW games a year. This year, computer gamers have had their ACW appetite only partially satiated by such games as *The Blue and the Gray*, and *From Sumter to Appomattox*, both of which were primarily strategic-level games. From a marketing standpoint, at least, the time is ripe for a battle-level ACW wargame. Enter then, Swfte and their *Gettysburg* for Windows, a niche game for all time.

The people at Swfte are "swift" enough that they understand their company is hardly a household word. Any prospective buyer will probably think this is a Microsoft product, as the color Windows logo is rather prominent on the box, and "Swfte" is visible only on the bottom flap! The front cover shows a headless Confederate soldier with the phrase "An Interactive Battle Simulation" superimposed thereon—as if any wargame could exist that would not be interactive (then again, given some of the recent games we've played...). For those who were unaware of Gettysburg's importance, it is proclaimed as "The Turning Point" on the back of the box, along with a brief explanation of the campaign. To be fair, the back of the box also offers a screen shot, showing the "troops" in action on a neat antique map of Gettysburg and the surrounding area.

Upon opening the box, it is readily apparent that this game is most definitely aimed at the novice. Of 61 pages in the manual, roughly two-thirds are devoted to background information on the battle and to Civil War weapons in general. Fairly interesting to all but the grognard, it resembles the highlights of a Time-Life book, with the expected lack of depth of that approach. Hopefully, those newcomers to gaming who read the enclosed material will use the bibliography provided to search for more enlightening ACW works. One surprise was the exclusion of Shelby Foote's *The Civil War*, which would seem a natural for anyone remotely interested in Gettysburg, especially since it's known to the mainstream and readily available.



Hearken back, O Wargamer, to the days when games were GAMES, not simulations, and we were "in the shoes" of our favorite commanders, with the fate of nations resting on every roll of the dice....

Windows On The Past

Installing *Gettysburg* is a snap, as you might expect from a game designed from scratch for the Windows environment. Starting the game brings a whiff of nostalgia for those of us who grew up in wargaming's ancient past. *Gettysburg* is nothing so much as an old Avalon Hill design from 20-30 years ago. While there was research involved in the design of this game, it is hardly earth-shattering or controversial. Number-crunchers may peruse the order of battle tables enclosed to their heart's content without finding any obvious errors. A full five pages are devoted to casualty ratios and their breakdown between killed, wounded and missing, for those who are interested in that sort of thing. Nonetheless, all the hard data included could be found easily in any reasonable book on Gettysburg and is incidental to the game play.

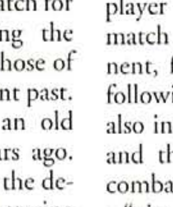
As it stands, *Gettysburg* is hardly an exposé on the tactics of Civil War engagements. Rather, it is an attempt to loosely model the battle in a "cause and effect" manner, to give the player a very broad view of what happened on those fateful three days in July of 1863. The overly astute player who reads the background information and tries to implement it in his tactics will not necessarily be successful. *Gettysburg* is definitely a game, as opposed to an exacting simulation, and it is possible to win with questionable tactics. The AI, for instance, does not always know it is being flanked and can thus be exploited by units that are just outside the defending AI's firing radius.

More irritating is that human-to-human play is not possible. However, as a kind of demo, the player may watch the computer compete with itself to get an idea of possible strategies.

In historical mode, reinforcements show up at the exact time they did in the real battle, while in "free deployment" there is a bit more randomness. Historical scenarios find the computer player performing much the same as its counterparts in the real battle, so that novices may easily match themselves against a pseudo-Lee or Meade. The more advanced player (relatively speaking, of course) may match wits against the "free"-minded opponent, for a much better match up (see the following strategic notes). Four scenarios are also included, one for each day of the battle and the grand sweep of all three days of combat. During the campaign you are shown a "victory update" after each day of battle.

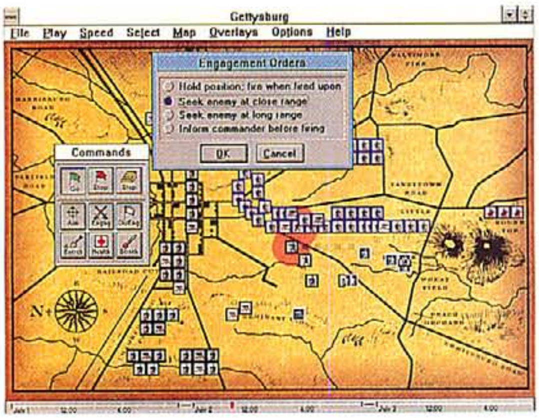
Old hat? Certainly, but very user-friendly to the novice. The maps add to the general feel by their an-

Gettysburg



TITLE:	Gettysburg
PRICE:	$49.95
SYSTEM:	IBM with Windows
REQUIREMENTS:	386 or better, 2MB RAM, VGA graphics, mouse, Windows 3.1
PROTECTION:	None
PUBLISHER:	Swfte Rockland, DE (302) 234-1740

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tique look, which is one of the best things about the game. Grognards often forget how intimidating hexgrids and the like can be to the novice, and it comes as little surprise that there are no lines of demarcation anywhere in the game. *Gettysburg* is reminiscent of watching old "Cyclorama" setups at Civil War parks, with the lines, highlighted, slowly moving towards their goal. Visually, the game is easier to follow than any of the recent ACW computer game releases, which is very important for the novice. If one tires of the antique look, a terrain overview with colored hills is available, although terrain contours are nicely delineated in both graphic modes.

Marching Orders

The scale of *Gettysburg* is brigades, which is fairly common for games of this battle. Going smaller to, say, regiments makes the game playable only for fanatics because of the number of troops involved. Part of the flexibility of the program is the ability to move units by icon or by unit name via a scrolling list. Both mouse and keyboard are supported. Entire formations may be moved by division or even corps commander, or any group of units in a given vicinity may be moved as a single line via the mouse and space bar in combination. Units may even be ordered to follow winding paths such as creeks. The net effect is that of a boardgame conversion to the computer. If anything, the game gives too much freedom of movement, especially as one can see the whole battlefield—unlike Lee or Meade! Still, control freaks will feel right at home here, and anyone will have fun trying to coordinate assaults on Little Round Top.

Orders are given to units through the "Commands Toolbox" and consist of Engage, Disengage and Entrench. This is fairly simplistic, but is reasonable given the complexity of the game. Outflanking, refusing the flank, and other maneuvers are left to the player to devise for himself through the movement capabilities of the units. For those players who find entrenching tedious, an "auto-entrench" mode is provided. Units will eventually retreat in the face of overwhelming odds, but the wise commander will order them to disengage before losing too many troops. Players with a "Pickett's Charge" fixation may order their valiant troops to attack against superior numbers, generally assuring a short game.

Engagements are anything but preordained. Units can be ordered to seek the enemy at either close or long range on attack. Defending units may hold position, only firing when fired upon. Finally, units may ask the commander what to do when the enemy enters firing range. All of this makes a difference because units fire perpendicular to the way they face, introducing an almost "arcade" element into play. Artillery must be faced via a compass, in order to bring its tremendous killing power into play. It is even possible to hit your own units with friendly fire, unheard of in most Civil War games, which adds a great deal to gameplay. If you happen to neglect a front, you may find that your firepower has been wasted by firing at the wrong angle. Hardly historical, but a lot of fun.

Blow It Out Your Cannon

The designers obviously value cannon fire, as they provide for the use of canister, case, shell and solid shot. It's a shame they didn't provide for the varieties of smoothbore and rifled guns found in the small arms arena, but perhaps they felt the added detail was not worth it for this scale of treatment. Regardless, infantry can put out a deadly rain of fire, whether on a hill or entrenched. Artillery is effective at close range and farther out on targets in the open, so that headlong charges are doomed much as they were historically.

Whether you choose the Free or Historical versions to play, the salient points of the battle emerge. There is early fighting in the town of Gettysburg, followed by desperate actions around Little Round Top and Devil's Den. While this can stereotype play a bit, it is a strength for newcomers to wargames, who have instant reference points by which to judge their performance. The game plays quickly enough that it develops almost like a movie, albeit more like a TV-movie than a film classic.

General Lee Enjoyable

Ultimately, *Gettysburg* allows the novice to see how Lee "wasn't really Lee" and to see if he could do better. The victory conditions are quite general and can be modified for those wishing a greater challenge, say, as Meade, to annihilate the entire Rebel army. Sound effects of cannon and gunfire, when combined with the period maps, offer enough suspension of disbelief that the gamer looking for merely a good time will not be disappointed. The only way I could recommend *Gettysburg* to an experienced wargamer would be as a laptop-type game when traveling, as it offers a pleasant diversion. Hopefully, the next design from Swfte will be a bit more ambitious, while retaining the fun elements of *Gettysburg.* CGW

Three Days In The Life Of Gettysburg

Strategies and Tactics for Gettysburg Scenarios

Day One—Union

Stop A.P. Hill's advance with Buford, delaying as long as possible. During the first couple of hours, withdraw only if forced. By midday, Ewell will have to be dealt with. Do not attempt to hold everywhere—the Chambersburg Pike is the most important. Forget reserves, as they are a luxury you cannot afford. The town of Gettysburg is stronger defensively in the game than historically, so use this to your advantage. Expect to lose over 70% of Buford's force. By the end of the day, make sure units are deployed with fields of fire covering the approaches to Cemetery Ridge and Little Round Top. After playing this one a couple of times, don't give yourself a victory unless you win decisively. Keep playing for the rest of the campaign.

Day One—Confederate

Basically, you are stuck with no real way to outflank against Buford, although you should try in an attempt to stretch the Union lines. Be bold with Ewell, as he has a strong force and can sometimes break through for an easy win. More often than not, this is a bloody scenario, where the

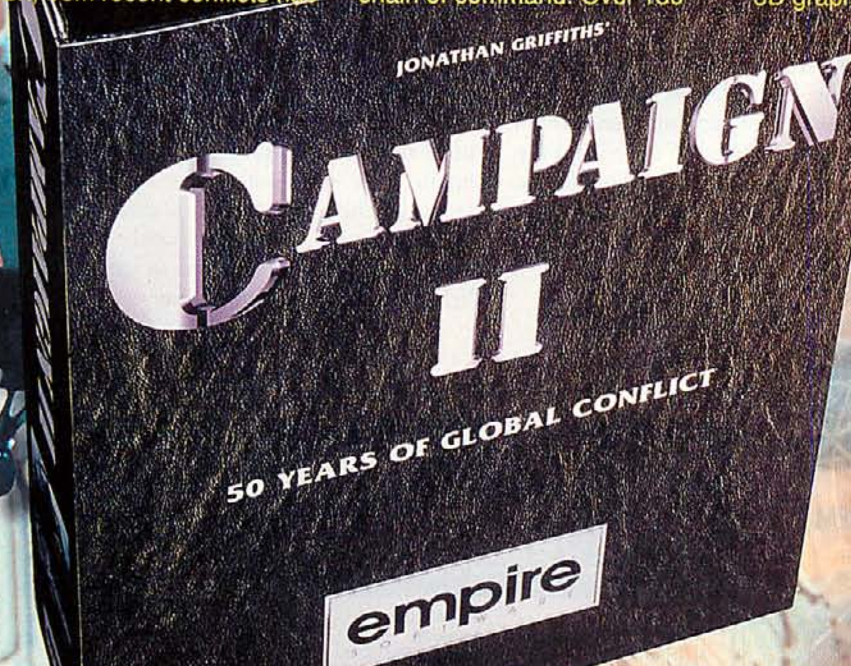
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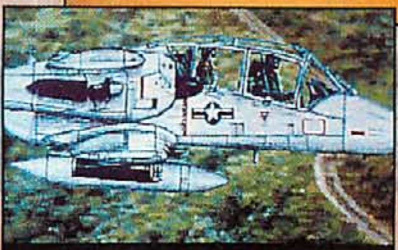
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computer does OK, as it defends better than it attacks, especially in the Free Deployment scenario. If you crush the Union and take the high ground, keep going and see if you can get off the map towards Washington for a complete victory. In general, this is best played as part of the entire three days of battle so that you can see your original battle plans carried through to fruition.

Day Two—Union

If you want a handicap go ahead and defend forward, just as the Union did in the real battle. Otherwise, back up to the high ground and put units on your flanks, especially Little Round Top. Watch for some counterattacking possibilities as the Rebels get stretched thin. In Free Mode the computer will be very aggressive as the Confederate and can actually beat you if you aren't careful. Use your superiority in artillery to suppress the Rebel cannon and to hold strategic positions. Keep two or three brigades in reserve, as they will be sorely needed late in the day.

Day Two—Confederate

This is by far the best scenario, as the Confederates have a tough job ahead of them. The Union has a good defensive position, but troops are nearly equal. While Longstreet's attack around Little Round Top is a very good option, it is not the only one. Attacking simultaneously with Ewell on the other flank can cause the Union to commit his reserves too soon, leaving none to stop a breakthrough. If the Confederate player is in the Campaign scenario and has lost too many troops on day one, it is much tougher to win here. If the high ground on the Union left flank can be taken, move cannon over and use canister on the outflanked Union units to roll up their line.

Day Three—Union

The only way this is even a game is if you attack as the Union, attempting to crush the Confederates. Normally, the Rebels will sit and wait for a Union advance, instead of throwing themselves away as Pickett did historically. The Confederates can be outflanked, believe it or not, on Longstreet's wing, as Pickett is moved to center and the troops left there are exhausted. Should the Confederate try a flank move himself, use artillery to make him regret it. Play this one when you can't sleep.

Day Three—Confederate

An assault in the center is impossible by itself. The flank maneuver of Day Two still has a chance, because you can hopefully coordinate better in the game than Lee & Co. did historically. Take the best troops, such as Pickett's, and swing them around the left flank, with some artillery along. Don't waste artillery in the center announcing the attack, but use it on A.P. Hill's flank to try and tie down the forces there. If and only if one of the flanks starts to crumble should you commit in the center. Players who can win this scenario over 50% of the time are worthy of praise from Lee himself.

Tactical Notes

Don't forget that the best positions for defending troops are entrenched and/or atop hills. Attacking at anything other than close range is a prelude to disaster. Try to have at least 3-1 odds locally for any attack to have a possibility to succeed. Don't get into an artillery vs. artillery battle, as cannon are much more useful against infantry assaults. Finally, pull units out of line before they retreat of their own volition, and use the "fight to the last man" option only as a last resort, except those who wish to try for the Pickett Memorial Award... CGW

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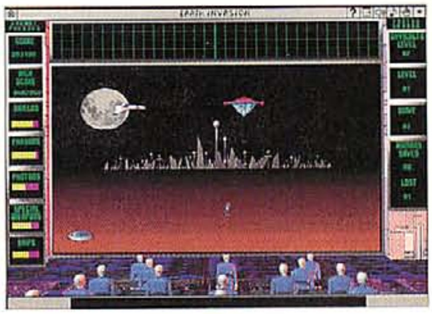
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Store: 1060 Randolph Ave. Rahway N.J.

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Taking A PEEK



Earth Invasion

3DI Productions, Inc.
1601 N. Sepulveda Blvd.
Manhattan Beach, CA 90266-5133
(310) 546-2882

EARTH INVASION: Gamers, raise shields and arm weapons! It's time for a fast, 3D scrolling, smoothly animated, photo-realistic, fully MIDI sound supported action game for Windows. Five difficulty settings and over 30 levels of game play contribute to the wrist-wrenching excitement. Comprised of three separate though interwoven games, *Earth Invasion* is the most advanced action title that we have seen for Windows. Earth Orbit Mission is reminiscent of the arcade favorite *Galaxian*, Ground Defense Mission offers *Defender*-style horizontal scrolling action, while Deep Space Mission takes off like *Wing Commander*. Requirements for this shooter are stringent, demanding a 386SX-25MHz system or better, 4MB RAM, Windows 3.1 and DOS 5.0. An accelerated video card, preferably offering True-Color support, is best, though it is certainly not required. Sound and music are exceptional with a 16-bit sound card and MIDI, while 3D graphics rendered in *Autodesk 3D Studio* visually steal the show. IBM with Windows ($39.95). Circle Reader Service #1.



Firestone Country Club

Access Software, Inc.
4910 West Amelia Earhart Dr.
Salt Lake City, UT 84116
(800) 800-4880

FIRESTONE COUNTRY CLUB: Sight of the legendary Rubber Bowl, Akron, Ohio (Yea, Buckeyes!) is also the sight of one of the premier stops on the PGA Tour—Firestone Country Club's South Course, presently the home of the NEC World Series of Golf. This also happens to be the subject of one of the latest SVGA championship courses from **Access Software** for the *Links* golfer. The brainchild of millionaire industrialist Harvey Firestone, Firestone Country Club has been carefully recreated for the enjoyment of desktop golfers everywhere, featuring the rich colors of October foliage in the Midwest and the challenge of one of the world's most demanding courses. *Firestone Country Club*, the sixth Super VGA championship course, requires *Links, Links 386 Pro* or *Microsoft Golf.* IBM ($29.95). Circle Reader Service #2.



Pebble Beach Golf Links

PEBBLE BEACH: Located along the shores of Carmel Bay on California's beautiful Monterey Peninsula, Pebble Beach Golf Links is considered the best public course in America. The creative vision of Samuel F. B. Morse, it was laid out during the first World War and opened in 1919. Pebble Beach today is the only course of its caliber providing public access. It is also the most requested course by *Links* golfers worldwide. So, by popular demand, Access Software has released *Pebble Beach Golf Links*, the first in a new series of *Links Classic Edition* courses. Though *Pebble Beach* will suit most players to a tee, golfers are asked to keep a few rules in mind: Please repair ball marks on the green, replace divots and rake bunkers when finished. This is your course; take good care of it. *Pebble Beach*, Access Software's seventh Super VGA championship course and their first *Classic Edition* course, requires *Links, Links 386 Pro* or *Microsoft Golf.* IBM ($39.95). Circle Reader Service #3.



My First World Atlas

Cambridge Interactive
222 Third Street, Suite 0234
Cambridge, MA 02142
(617) 225-0848

MY FIRST WORLD ATLAS: This map-time busy bath for reading age youngsters was designed by **Impressions Software**'s own David Lester. An entirely point-and-click interface makes the information in this software easily accessible, though children will need a few minutes to learn the icons. This atlas is truly global, as it extends beyond the Earth to a rudimentary romp through the solar system and a "you are here" look at the Milky Way. Although many kids will not be interested in standard atlas information like per capita income, much of it is provided, raising its head like vegetables hidden in candy wrappers. IBM ($49.95). Circle Reader Service #4.



Terminator 2, Chess Wars

Capstone Software
Airport Corporate Center
7200 Corporate Center Dr., Suite 500
Miami, FL 33126
(800) 468-7226

TERMINATOR 2, CHESS WARS: There is both an enormous following of *Terminator* fans and a popular market for computer chess, but do the two mix? The player controls the human resistance, with an Arnold-ish T-800 as king, Sarah Connor as queen, Miles Dyson as knights, John Connor on a motorcycle as bishops, and freedom fighters as rooks and pawns. An assortment of Terminators and Hunter-Killers serve as Skynet's merciless human harvesters. Using the *Grandmaster Chess* engine, *T2 Chess Wars* allows you to set the computer's playing strength at several levels, with a balanced, active or passive playing style. You may also set a time limit on the computer's thought process and opt whether the computer will "think" while it's your turn. A

* *No Reader Service number. Please call advertiser for information.*

number of other settings change background scenery, 2D or 3D view, VGA or SVGA mode, and even allow network or modem play. When pieces are captured, an animated scene unfolds showing a Terminator or Hunter-Killer torching a human, or disintegrating into a junk pile from a resistance fighter's laser blast. The animations are not what you'd expect of a high-caliber CD-ROM program bearing the *T2* title, and will soon be turned off by most players, yielding "just another chess program" with *Terminator*-styled playing pieces. IBM with CD-ROM ($49.95). Circle Reader Service #5.

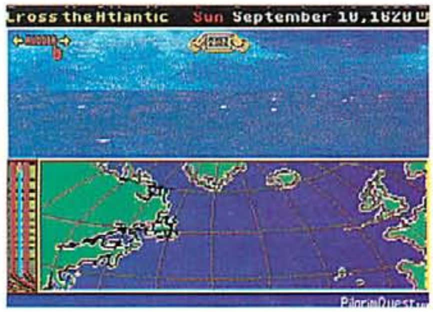
THE BEVERLY HILLBILLIES: Weeiii Doggies! Capstone has added yet another license to their stable with the computer rights to Twentieth Century Fox's *The Beverly Hillbillies*. This new adventure based upon the movie of the same name lets you assume the role of Jed Clampett who, with the help of his kin, must make his way from Bugtussle to Beverly Hills in a puzzling quest involving a humdinger of a crime. For ya' see, no sooner have they arrived in their new mansion home and Granny's kidnapped! So, Jed, Elly Mae and Jethro must go searchin' for clues to her whereabouts and come to her rescue. Only then will they ever get to feelin' at home in Beverly. Incorporating a very simplistic interface, modest VGA graphics, a tolerable audio soundtrack and predominantly simple puzzles, *The Beverly Hillbillies* is definitely light adventure fare. Though the neophyte or occasional adventurer may find it his jug of tonic, serious adventurers should look elsewhere for their required draught of questing brew. IBM ($34.95). Circle Reader Service #6.

Decision Development Corporation
2680 Bishop Dr., Suite 122
San Ramon, CA 94583
(800) 800-4332

PILGRIM QUEST: This historical simulation of the Pilgrim settlement at Plymouth by DDC and the **National Geographic Society** is geared toward the younger set. Unfortunately, the product's association with the National Geographic Society has done little to enhance its value. While it may be accurate from an historical perspective, and while it may afford a certain instructional value, *PilgrimQuest* has more the feel of an old film strip presentation than a multimedia learning experience. Children will definitely learn about the pilgrims if they stick with the game, but its mediocre interface and graphics, plus a complete lack of audio (except for PC speaker bleeps and bloops) makes *PilgrimQuest* a turkey as far as effective edutainment products go, especially at the asking price. IBM ($74.95 consumer version; $129.95 school version). Circle Reader Service #7.



The Beverly Hillbillies


PilgrimQuest


NHL '94


Tom And Jerry



Global Domination

Electronic Arts
1450 Fashion Island Blvd.
San Mateo, CA 94404
(800) 245-4525

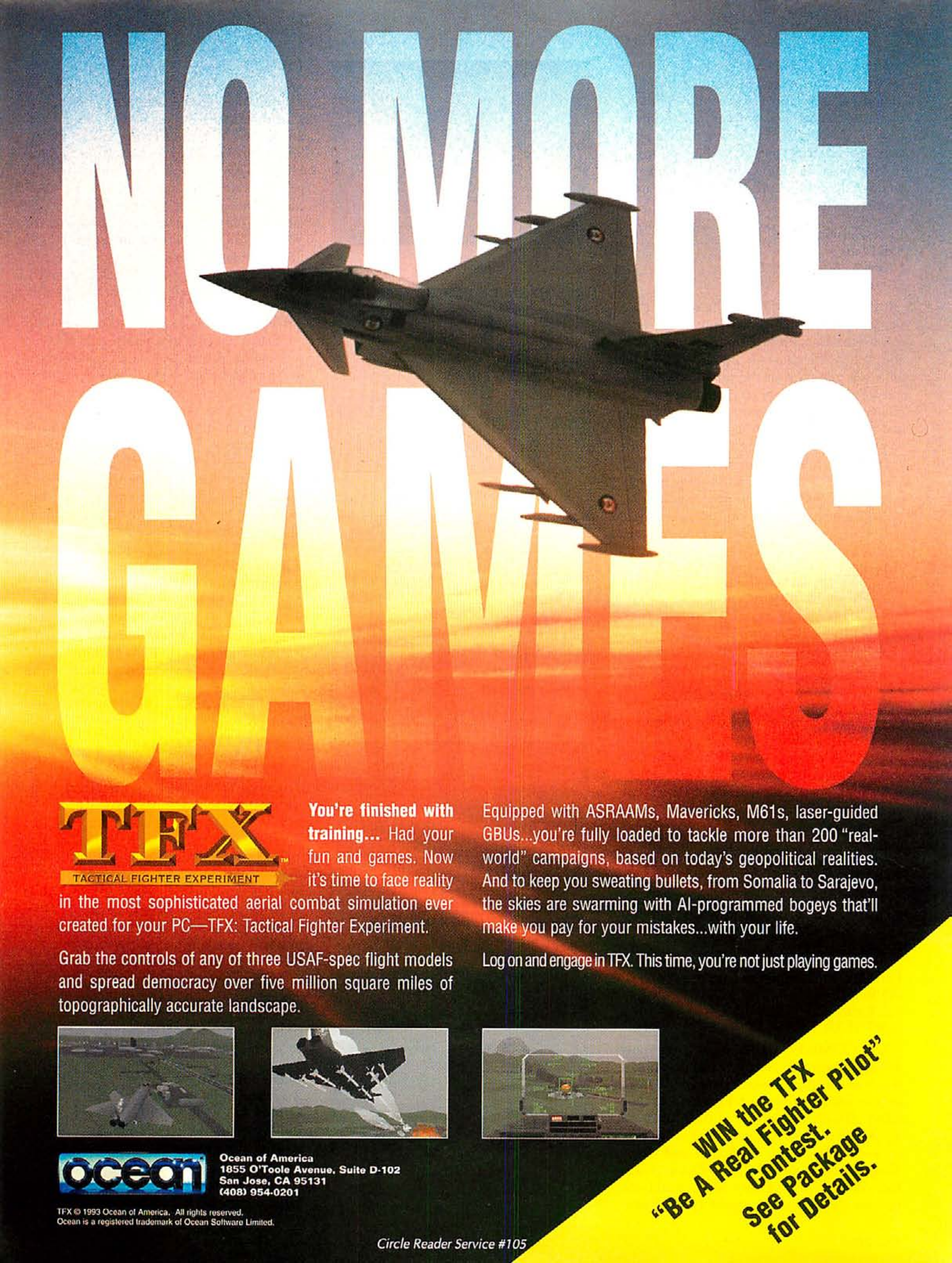
NHL '94: EA Sport's excellent hockey game only gets better as it enters its sophomore season. Significant additions in this 1994 edition include: 4 Way Play support, allowing 1 to 4 players to play with or against each other; full goalie control; one timer and penalty shots; and a battery back-up that will save your personal stats. New music and organ tunes, new player animations, an NHL and NHLPA license, and lets not forget those Mighty Ducks of Anaheim (oh, and that Dallas team)—it's all here in one of the best cartridge sports games available. SEGA ($59.95). Circle Reader Service #8.

Hi Tech Expressions Computer Software
584 Broadway
New York, NY 10012
(800) 447-6543

TOM AND JERRY: Here's the sad case of a couple of cartoon character has-beens who need work so badly they'll even do arcade games. Tom, still typecast, plays the big bad cat who has kidnapped Jerry's nephew Tuffy and may soon devour him if he can find a suitable beverage to wash down a mouse. Jerry, pint-sized but nervy as ever, must try a rescue before he finds his cousin's remains lying around in a regurgitated furball. The fun begins when a host of household obstacles conspire to ding, dent and damage poor Jerry, while he pitches weapons like marbles, gum, hammers, ink, meat cleavers and moth balls at them. The graphics are satisfactory, but the game play is decidedly poor. The joystick works to scroll Jerry, but the arrow key action doesn't match the manual's description. Arcaders are advised to stick with Sonic and let Tuffy tough it out by himself. IBM ($29.99). Circle Reader Service #9.

Impressions Software, Inc.
222 Third Street, Suite 0234
Cambridge, MA 02142
(203) 676-9002

GLOBAL DOMINATION: In the not too distant future, five superpowers will compete for world domination. Minor governments will fall under the driving force of these expanding superpowers as the ultimate goal of "peace" is sought. This goal will be attained when one superpower stands alone, all others eliminated. As one of these five leaders, you must face some of history's most skilled rulers: Julius Caesar, General Custer, Genghis Khan, Henry V, Adolf Hitler, Abraham Lincoln, Napoleon, Queen Victoria and an unnamed caveman(?). Victory against these cunning opponents is the chief goal and challenge of **Impression**'s multi-player conquest simulation. Competition is against a human player on a single computer or by modem, or against


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Circle Reader Service #105

computerized opponents. Conquest of our world or specially created worlds is offered; diplomats, spies and activists add depth to play. Tactical battles can occur in real-time if desired, or may be turn-based. Either way, budding conquers have a world of options at their disposal in this far reaching game of world-wide conflict. IBM ($59.95). Circle Reader Service #10.

Inline Software, Inc.
308 Main St.
Lakeville, CT 06039-1204
(203) 435-4995

FIREFALL ARCADE: In the style of classic, fast-paced video games comes this new title for the Macintosh. A simple game of skill and agility, the choice is simple—kill or be killed. As you try to make your way through *Firefall Arcade*'s nine heart-pounding levels of excitement, ferocious fireworms, slinky sliders, and the perpetual "death star" all stand in the way of success. Fortunately, many weapons are at your disposal including triads, heat seekers, cannons and V12s. It's a good thing, too, as every bit of firepower will be needed to survive. Its 3-D animated effects and cool soundtrack serve up a visual and audible potpourri. Only serious joystick jocks need apply. Macintosh ($49.95). Circle Reader Service #11.

Logos Research Systems, Inc.
2117 200th Ave. West
Oak Harbor, WA 98277
(800) 87 LOGOS

LOGOS BIBLE CROSSWORDS: This is one of the most full featured crossword titles to surface since Sierra released *Take-A-Break! Crosswords*. The 200 included crosswords are designed to test your Bible knowledge, and, when used with *Logos Bible Software* (sold separately), it will cross reference the puzzle clues to the appropriate verse in the Bible. Puzzles can be adjusted to your skill level through several difficulty settings, and single or whole-word hints are but a click away. Puzzles may also be saved in progress, colors may be customized, and a special font, Scribbles, is included in both TrueType and Adobe Type Manager formats for that penciled-in look. Additional volumes to follow. IBM with Windows ($39.00). Circle Reader Service #12.

LucasArts Entertainment Company
PO Box 10307
San Rafael, CA 94912
(800) STAR WARS

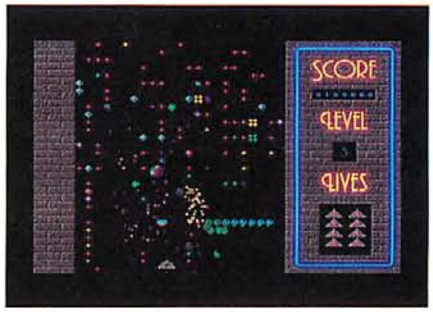
AIR COMBAT CLASSICS: Every now and again nostalgia creeps in and demands a return to a favorite game of days gone by. To assist in fulfilling that need, LucasArts has just taken off with a collection of their historical air combat titles *Battlehawks 1942, Their Finest Hour: The Battle of Britain* and *Secret Weapons of the Luftwaffe (SWOTL)*, as well as four *SWOTL* tour of duty add-ons and one mission disk for *Their Finest Hour*. *Battlehawks 1942* allows the player to fly Japanese Zekes, Kates and Vals against American Dauntless, Wildcats and Avengers in four World War II naval air battles. *Their Finest Hour*, a *CGW* Hall of Famer, places the airborne gamer in the seat of British Spitfires and Hurricanes or German top aircraft of the period. Number six at present in *CGW's* Top Simulation category, *SWOTL* takes the digital pilot into the final years of the second World War in their most advanced WWII flight simulation program. Air combat expertise and leather flight jacket not included. IBM ($69.95). Circle Reader Service #13.

B-WING: Okay, now the Rebels have *really* got Darth Vader in a lather. In spite of losing their home base at Yavin and being betrayed in *Imperial Pursuit*, the Rebellion is still hanging on and has even managed a strike on the Empire's Deep Dock Station. Now, in the latest add-on disk for *X-wing*, the homeless Rebellion must continue its search for a planet to hang its hat on. Darth Vader has made it his personal quest to bring the Rebellion a world of hurt, but he doesn't know that they are about to introduce their newest Starfighter, the B-wing. Though the craft looks nothing like a "B", it is still one heck of a ship—with three laser cannons, three ion cannons, and a max load-out of 12 proton torpedoes. You'll get to command this heavy-duty firepower in six new historical training missions and 20 new plot missions. As in *Imperial Pursuit*, the disk includes hints for the missions and a Top Ace pilot that will allow you to play all of the *X-wing* and *Imperial Pursuit* missions in any order. IBM ($29.95). Circle Reader Service #14.

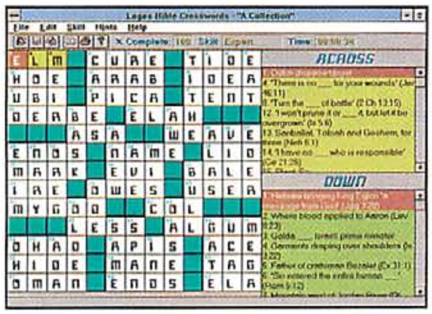
REBEL ASSAULT: May the Force, and a CD-ROM, be with you. In this game of hot n' heavy joystick action, LucasArts uses music and digitized footage from the *Star Wars* films and 3-D rendered graphics to put on one of the hottest sight-sound shows to be seen from a CD-ROM game. Donning a Rebel flight suit, you will blast your way through 15 different action-oriented sequences: navigating the hairy canyons of Beggar's Canyon, weaving through an asteroid field with TIE fighters in pursuit, making a suicide attack on a Star Destroyer, and blasting through the Stormtrooper-infested hallways of a Rebel base, among others. In terms of game play, it is very simplistic and is reminiscent of early laser disk coin-ops—but what a show! IBM with CD-ROM ($69.95). Circle Reader Service #15.

Maxis Software
2 Theatre Square, Suite 230
Orinda, CA 94563-3346
(800) 33-MAXIS

SIMCITY 2000: An exponentially improved version of one of the most successful computer games ever, *SimCity 2000* offers you the power to build a metropolis from the



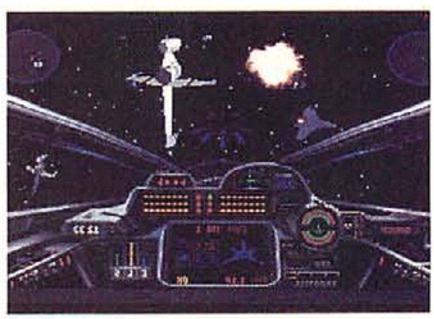
Firefall Arcade



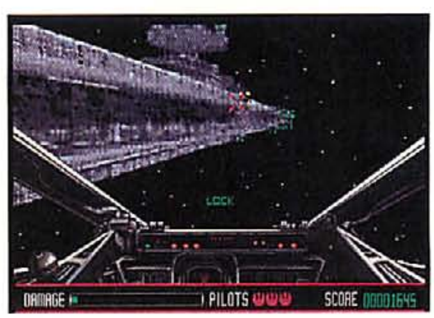
Logos Bible Crosswords



Air Combat Classics



B-Wing



Rebel Assault

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WANTED: Private Investigator to Rescue Desperate Beauty.

"Cobra Mission is unique."
Computer Game Review "

"...quite an original."
Strategy Plus"

"I have to admit I enjoyed it."
"Game Bytes"

Available now at your nearest dealer or call 1-800-258-MEGA. Or write: Megatech, P.O. Box 11333, Torrance, CA 90510 Visa, MasterCard, checks accepted.







System requirements: 386 or faster machine with 640K RAM hard disk with min. 11 megabytes of available space required, mouse recommended. Graphics compatible with EGA, MCGA and VGA (VGA highly recommended). Sound support: Sound Blaster, Thunder Board, Pro Audio Spectrum and Adlib.

Circle Reader Service #90

NR-18 This game is not for the faint-hearted. Contains violence and some material inappropriate for minors.

NOT RECOMMENDED FOR PLAYERS UNDER 18.

None of the games developed by Megatech Software have been rated by the MPAA

MEGATECH

ground up, but now you cannot make decisions without considering political and economic implications. Rapid transit requires more consideration of actual logistics (placing transit stations at appropriate sites, deciding when they should be run underground and when they should be elevated). Education (schools and their funding) plays a major role in the long-term future of a city. Highways and freeways can be designed to alleviate the stress of ordinary avenues. You have increased options for clean power plants. In addition, cities no longer must conform to the staid gridiron look. New ways of placing zones and the ability to position roads at a diagonal mean you can even design historical urban areas like Washington and Paris. Macintosh ($69.95). Circle Reader Service #16.

Merit Software
13707 Gamma Rd.
Dallas, TX 75244
(800) 238-4277

COMMAND ADVENTURES—STARSHIP: Hail the conquering hero! Hail! It's the year 2127 Galactic Standard Time and the galaxy is open for exploration and exploitation. Treacherous enemies are plotting revenge, and bloodthirsty pirates are trafficking the spaceways. Still, there is a vast frontier open to the brave and intrepid would-be hero. All that's required to seek your fortune in this universe is a sturdy ship, a capable crew, and a good blaster at your side. Featuring outstanding audio (with up to eight digital sound effects played simultaneously), first rate VGA graphics and animation, and a rich blend of strategy, action and role-playing elements, *Command Adventures: Starship* offers the role-player an atmospheric and engaging game. Real-time space and ground combat coupled with multi-layered parallax scrolling, random universe generation, and a massive contingent of configuration options will keep galactic commanders busy for eons to come. IBM ($69.95). Circle Reader Service #17.

MicroLeague Interactive Software
University Office Plaza, Bellevue Bldg.,
Suite 201
262 Chapman Road
Newark, DE 19702
(800) 334-6572

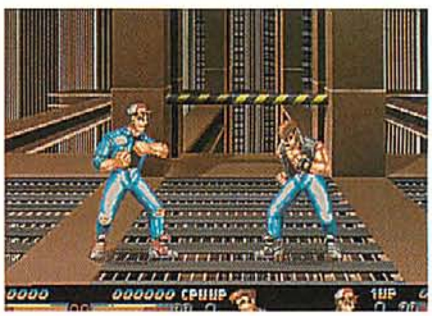
BODY BLOWS: It ain't *Mortal Kombat.* It ain't *Street Fighter.* But it still let's you gut-punch, strangle-hold, death roll, sword spin, body slam, and head bash your opponent—everything short of ripping out their spine. The game? *Body Blows* from **Team** 17 and **MicroLeague.** Offering some of the fiercest bone-crushing to ever appear on the PC, this body basher, in the tradition of the video arcades, allows you to try your hand (foot, head and almost every other part of your body) at beating the hooey out of each opponent you face until you can prove to the world that you are the best thug around. *Body Blows* offers you the chance to take on 10 different opponents, each with their own strengths and weaknesses. Though not as well done as the PC version of *Street Fighter II,* it does offer several more champions to bash it out with. IBM ($39.95). Circle Reader Service #18.



SimCity 2000



Command Adventures: Starship



Body Blows



Bloodnet



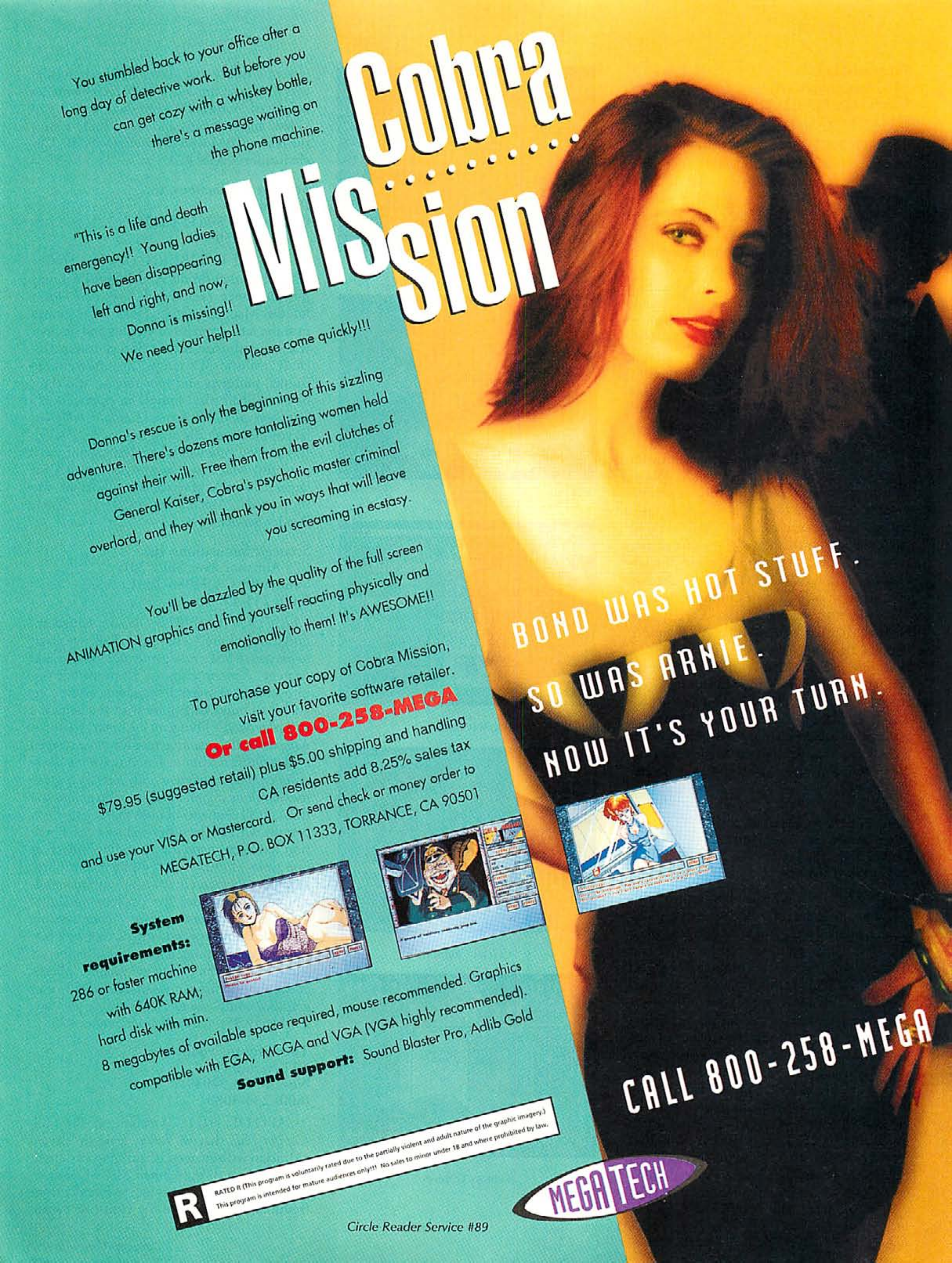
Joe & Mac Caveman Ninja

MicroProse Software Inc.
180 Lakefront Dr.
Hunt Valley, MD 21030-2245
(800) 879-PLAY

BLOODNET: The Prince of Darkness is back and, of course, he wants your blood. But he wouldn't mind sucking your data, too. Two literary genres, gothic vampire tales and cyberpunk, collide against the dark and surreal backdrop of 21st Century New York in **MicroProse's** *BloodNet.* Players of this role-playing adventure will jack-in to the cyberdeck of Ransom Stark, a down-and-out freelance hack who becomes enmeshed in a vampire-lord's plot to control cyberspace and the world. Cyberpunk role-players may fry their wetware over the rich character generation system (based on "ethical dilemmas" used to determine a player's character), extensive skill system, and broad array of future-tech toys. The graphics, labeled "3-D Hallucinographic art" and including an odd interpretation of cyberspace, are wonderfully bizarre, while the cyberpunk/gothic fiction has a very hard edge. Pop the nootropics, cowboys, break out the dog-eared Gibson and Sterling, and prepare yourselves for what might be the best simulation of our Dark Future this side of Chiba City. IBM ($69.95). Circle Reader Service #19.

New World Computing, Inc.
20301 Ventura Blvd., Suite 200
Woodland Hills, CA 91364
(800) 325-8898

JOE & MAC CAVEMAN NINJA: If you're pining for the prehistoric, this captivating game will have you pounding your chest and leaping with delight. With both one- or two-player modes supported, the object is to hurl axes, fireballs and stone wheels at your enemies while picking up valuable items like food and bonus points along the way. Having Joe or Mac down chili sauce or eat a hot pepper enables them to cook any attacking barbarian in their path. Remember, though, the times are prehistoric. So watch out for pteranodons, electrified fish, poisonous seed-spitting plants, and giant dinosaurs. Plus, be ready to club it out with other ill-tempered meanies that inhabit each level in order to win the fur-clad babes and move on. From its "stone wheel" packaging and included dinosaur eraser to the comical, attractive graphics and the upbeat Paleolithic music, this game is an entertaining delight sure to spark enthusiasm in the old den or wherever men still eat meat and paint on the walls. IBM ($29.95). Circle Reader Service #20.


Cobra Mission
You stumbled back to your office after a long day of detective work. But before you can get cozy with a whiskey bottle, there's a message waiting on the phone machine.
"This is a life and death emergency!! Young ladies have been disappearing left and right, and now, Donna is missing!! We need your help!! Please come quickly!!!
Donna's rescue is only the beginning of this sizzling adventure. There's dozens more tantalizing women held against their will. Free them from the evil clutches of General Kaiser, Cobra's psychotic master criminal overlord, and they will thank you in ways that will leave you screaming in ecstasy.
You'll be dazzled by the quality of the full screen ANIMATION graphics and find yourself reacting physically and emotionally to them! It's AWESOME!!
To purchase your copy of Cobra Mission, visit your favorite software retailer.
Or call 800-258-MEGA
$79.95 (suggested retail) plus $5.00 shipping and handling CA residents add 8.25% sales tax and use your VISA or Mastercard. Or send check or money order to MEGATECH, P.O. BOX 11333, TORRANCE, CA 90501
System requirements: 286 or faster machine with 640K RAM; hard disk with min. 8 megabytes of available space required, mouse recommended. Graphics compatible with EGA, MCGA and VGA (VGA highly recommended).
Sound support: Sound Blaster Pro, Adlib Gold
BOND WAS HOT STUFF.
SO WAS ARNIE.
NOW IT'S YOUR TURN.
CALL 800-258-MEGA
R
RATED R (This program is voluntarily rated due to the partially violent and adult nature of the graphic imagery.) This program is intended for mature audiences only!!! No sales to minor under 18 and where prohibited by law.
MEGATECH
Circle Reader Service #89

Psygnosis, Ltd.
675 Massachusetts Ave.
Cambridge, MA 02139
(617) 497-7794

INNOCENT UNTIL CAUGHT: Civilization has reached the stars, and the net result is that the Interstellar Revenue Decimation Service (IRDS) is now bigger and meaner than ever. "Master Thief" Jack Ladd has been busted by the IRDS for back taxes on ill-gotten gains, and he has only a month to lie, cheat and steal his way back to respectable citizenhood. Amiga-drawn graphics help create a richly depraved world with seedy pubs, bums, streetwalkers and love houses on three planets and one cloud city. Controlling Jack and dealing with derelicts is fairly easy with a unique interface that works well. It's an intriguing, well-drawn and well-scripted game that might be worth the adventure gamer's time. IBM ($59.99). Circle Reader Service #21.

PRIME MOVER: **Psygnosis'** latest title for the Amiga provides a surprisingly fun dose of cycling excitement to top off your entertainment calendar. Offering a smoothly animated, realistic cycle racing model, *Prime Mover* allows you to select from one of five powerful bikes and a good number of challenging tracks upon which to race it. Gearbox options permit selection of automatic or manual mode, with the manual gearbox responding much like that of a real cycle. Acceleration, braking, banking right and left, and shifting gears are all handled with the joystick. Though *Prime Mover* offers no unique features or advanced technology, it is a solid bike racing simulation for the arcade set. In the tradition of arcade racing, *Prime Mover* offers a challenge that runs a gear higher than the competition. Amiga ($49.99). Circle Reader Service #22.

Saber Software Corporation
5944 Luther Ln., Suite 1007
Dallas, TX 75225
(800) 338-8754

LANWORDS: Wordaholics unite! This Windows program offers seven variations of a *Scrabble*-style word game for up to four players. *LANWords* spells out fun for all in two player mode against the computer (with 20 levels of difficulty), multi-player mode on a single PC with up to four players, or network mode against as many as four players over a LAN. The program has a high degree of customization. Hints are available during play; tiles may be exchanged or shuffled; a "Panic!" button quickly hides *LANWords* from prying eyes; statistics on remaining tiles may be viewed; a "best plays" list of suggested words is available; and you can even chat with other players when in network mode. Also included is the *LANWords Rule Builder*, a special utility that allows you to modify or create new rules and game boards, and *LANWords Corporate Timer*, a utility that allows LAN administrators to set the times in which *LANWords* can be played. A 160,000 word dictionary is provided, and anagram and word finders assist the player. IBM with *Windows* ($39.00). Circle Reader Service #23.



Innocent Until Caught



Prime Mover



LANWords



Crystal Caliburn



Fantasy Empires

StarPlay Productions, Inc.
PO Box 217
Greeley, CO 80632-0217
(800) 203-2503

CRYSTAL CALIBURN: Developed by the same team that produced the award winning pinball games *Tristan* and *Eight Ball Deluxe* for the Mac, *Crystal Caliburn* takes pinball into the fantasy realm of knights and dragons with an Arthurian theme. Special features include realistic 3D ramps, an underground tunnel, bumpers and spot targets, and three ball multiball play. Simple to operate (only four keys are used), *Crystal Caliburn* will even let you electronically nudge the table. Though this pinball title will take advantage of more powerful Macs and large monitors, 13" or larger 256-color gray scale monitors are also supported. Macintosh ($59.95). Circle Reader Service #24.

Strategic Simulations, Inc.
675 Almanor Ave., Suite 201
Sunnyvale, CA 94086-2901
(800) 245-4525

FANTASY EMPIRES: "Lead a Kingdom. Forge an Empire!" That's the challenge given to players of SSI's new game of adventure and strategy, *Fantasy Empires*. Transporting you into a world of mystical kingdoms where your goal is to build an empire with the help of a computerized Dungeon Master, *Fantasy Kingdoms* offers exciting play for those steeped in the *D&D* tradition. Based upon the *Dungeons & Dragons* game world, *Fantasy Empires* uses a unique digital mediator who guides you through all elements of play, making sure you comply with all the official game rules. Provision has been made for up to five "rulers" at one time—human or computer controlled. Extensive character interaction employing advanced AI provides for challenging diplomatic encounters, while commanding multiple troop types and interacting with fantastic races is facilitated through an "emperor-friendly" interface. Digital sound effects, atmospheric music, and attractive 256-color graphics complement this playable package. IBM ($59.95). Circle Reader Service #25.

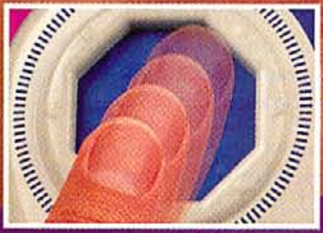
The Software Toolworks
60 Leveroni Ct.
Novato, CA 94949
(800) 234-3088

CAPITOL HILL: Welcome to the Hill, *Capitol Hill*, that is. You're a newly elected politician with an agenda and a big job ahead. As a member of the United States Congress, your goal is to rise through the ranks from freshman to Speaker of the House or Senate

TURBO TOUCH 360,™ THE STATE OF THE ART PC GAME CONTROLLER!



For use with IBM® PCs and compatibles



Gives you better diagonal control



Gives you easy circular control



Faster movement for higher scores



No more blisters or "numb thumb"

Extensively consumer-tested with game players, software developers and computer game reviewers, the Triax Turbo Touch 360 controller brings a new dimension of control and comfort to computer game playing. It's a breakthrough product, offering the benefit of higher scores and longer play without "thumb fatigue." Just pass your thumb or index finger over the control sensor–you don't have to push down. And, thanks to better diagonal and circular (360°) control, the newest and most challenging games are easier to control and more fun to play. The Turbo Touch 360 is the right product at the right time.

TRIAX™ TECHNOLOGIES

For the name of your nearest Turbo Touch 360 retailer or to place an order, call 1-800-858-7429

*Patent Pending. IBM PC is a registered trademark of International Business Machines Corporation. Turbo Touch 360 and Triax are trademarks of Triax Technologies.

Majority Leader, while exploring the inner workings of government in the process. Experience the swearing-in ceremony, choose your office staff, get to know your constituency, vote on bills, participate in Congressional debates, and keep your office running smoothly. *Capitol Hill* puts you in charge of interactive government. Featuring over 45 minutes of video footage, 500 photos, digitized narration and original music, this congressional game lets you explore the political machine from the inside. So, if you're thinking about a career in the political arena, or would just like to get a taste for government office, cast your vote on *Capitol Hill.* IBM with *Windows* and CD-ROM, Macintosh with CD-ROM ($49.95). Circle Reader Service #26.

The Software Toolworks
60 Leveroni Ct.
Novato, CA 94949
(800) 234-3088

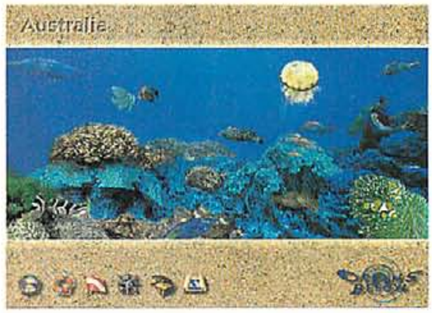
OCEANS BELOW: This innovative product will immerse the armchair scuba diver into a world of exotic dive sites, marine life and mysterious underwater wrecks—without getting wet. *Oceans Below* allows you to choose an exotic scuba dive site and then plunge into the crystaline VGA waters. The undersea world is explored in 125 still shots and over 200 video segments with full narration. Icons in an underwater motif provide information for a multitude of oceangoing life, shipwrecks, and burried treasure, while hot spots on the screen lead to context-sensitive videos and narration. Additionally, you can get cursory information regarding various pieces of scuba equipment. In the IBM-CD version, the narration is adequate and informative, but the video quality is abysmal. This product would be wonderful with full screen, full motion video. Perhaps the 3DO version will satisfy this need. CD-IBM and CD-Mac ($49.95). Coming soon on MPC and 3DO. Circle Reader Service #27.

Tsunami Media, Inc.
PO Box 790
Coarsegold, CA 93614-9983
(800) 644-9283

GEEKWAD GAMES: King Wacky has been imprisoned in a jar of jalapeno jelly by the evil Cybergeek, and only a geekwad can save him. Fortunately, if you buy this package, you are just the Geekwad **Tsunami** is after. Converse with the space spoofs on the Bridge to learn how to beat Cybergeek at the five included arcade games and obtain freedom for your pickled ruler. Carl Raygun introduces Beefender, where flying cattle of the Bovine Liberation Organization (BLO) must be shot out of the sky in two-dimensional space. Instruction in tactics is offered by Isaac Claponclapov for Grogger, a tricky dodge and hop game set in a galactic carhop. A Yoda knock-off provides assistance in a shareware-style shooting game where tossing quarters at annoying solicitors makes them go away. In Earth Last!, the "geek" must bag intergalactic garbage in the venue of cigarette butts and nauseous effluent in order to score points. Finally, Captain Major Buzz Armstrong with his six-pack support system monitors Phlegmings, the best rip, err, take-off in this package. Tiny trudging Phlegmings must be whacked with a golf club and a healthy swing before they gum up your apparel. While flicking Phlegmings is somewhat phun, overall *Geekwad Games of the Galaxy* remains primarily a collection of shareware-quality diversions for the unabashedly imbecilic. IBM ($34.95). Circle Reader Service #28.

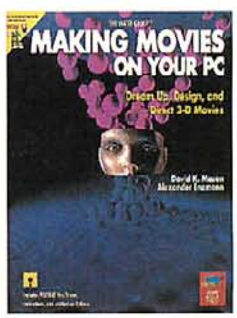


Capitol Hill

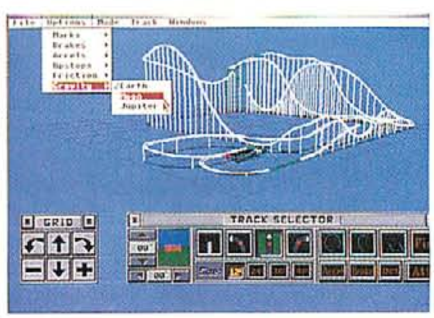


Oceans Below


Geekwad Games



Making Movies On Your PC



Coaster

Waite Group Press
200 Tamal Plaza
Corte Madera, CA 94925
(800) 368-9369

MAKING MOVIES ON YOUR PC: From the ever prolific **Waite Group Press** comes yet another book/disk combo (two 5.25" floppies) focusing on 3D technology and design. This book and its accompanying software—the shareware programs POLYRAY ray tracer, DMORF morphing utility, SP spline path generator, DTA animation assembler, and PLAY viewing program—allow the aspiring Fellini to direct his or her own films in the digital realm. With this resource you'll learn all about color selection, texture, camera placement, morphing, movement, light and shadows, and creating special effects. To assist in the creative process, the book includes all the basics from dreaming up a film to designing and directing it. From the creative to the constructive, *Making Movies on Your PC* provides a cost effective introduction to one of the hottest areas of computer graphic design. IBM ($34.95). Circle Reader Service #29.

Walt Disney Computer Software, Inc.
3800 West Alameda Avenue, 20th Floor
Burbank, CA 91505
(818) 973-4015

COASTER: Disney's latest is an electronic Tinker Toy set with which you can design, build and ride your own ultimate roller coasters. Sporting an easy to use, mouse driven, track assembly interface, scrolling the 3-D track sections and twisting them around is a snap—which might also be the grisly sound of your passenger's necks breaking if proper attention isn't paid to track safety and physics. The film and replay features in *Coaster* give it the ability to keep turning your stomach over and over, while a panel of experts stand in line ready to ride your creations and rate them for such things as speed and G-force turns. The physics model might be real, but so is the fun of noodling around with wild roller coaster track designs. And even though the track might be steep, the price for this ride isn't. IBM ($24.95). Circle Reader Service #30. CGW

COMPUTER GAMING WORLD HALL OF FAME

The games in *Computer Gaming World*'s Hall of Fame have been highly rated by our readers over time. They have been rated for their impact on the computer gaming hobby during their peak period of influence and acceptance by our readership. Note that the dates listed for each game are the copyright dates and may precede the actual release dates. Specific formats listed are those which *CGW* has in its possession.

The Bard's Tale (Electronic Arts, 1985)
Many Formats
Chessmaster (The Software Toolworks, 1986)
Many Formats
Civilization (MicroProse, Inc., 1991)
Amiga, IBM, Macintosh
Dungeon Master (FTL Software, 1987)
Amiga, Atari ST, IBM
Earl Weaver Baseball (Electronic Arts, 1986)
Amiga, IBM, Macintosh
Empire (Interstel, 1978)
Amiga, Atari ST, C-64, IBM
F-19 Stealth Fighter (MicroProse, Inc., 1988)
IBM
Gettysburg: The Turning Point (Strategic Simulations, Inc., 1986)
Amiga, Apple, C-64, IBM
Gunship (MicroProse, Inc., 1989)
Amiga, C-64, IBM
Harpoon (Three-Sixty Pacific, 1989)
Amiga, IBM, Macintosh
Kampfgruppe (Strategic Simulations, Inc., 1985)
Many Formats
King's Quest V (Sierra On-Line, Inc., 1990)
Amiga, IBM, Macintosh
M-1 Tank Platoon (MicroProse, Inc., 1989)
Amiga, IBM
Mech Brigade (Strategic Simulations, Inc., 1985)
Many Formats
Might & Magic (New World Computing, 1986)
Amiga, Apple, C-64, IBM, Macintosh
M.U.L.E. (Electronic Arts, 1983)
Atari 8-bit, C-64
Pirates (MicroProse, Inc., 1987)
Many Formats
Railroad Tycoon (MicroProse, Inc., 1990)
Amiga, IBM, Macintosh
Red Baron (Dynamix, 1990)
Amiga, IBM, Macintosh
SimCity (Maxis, 1987)
Many Formats
Starflight (Electronic Arts, 1986)
Amiga, C-64, IBM, Mac, Sega
The Secret of Monkey Island (LucasArts Entertainment Company, 1990)
Many Formats
Their Finest Hour (LucasArts Entertainment Company, 1989)
Amiga, Atari ST, IBM
Ultima III (Origin Systems, Inc., 1983)
Amiga, Apple, Atari ST, C-64, IBM
Ultima IV (Origin Systems, Inc., 1985)
Amiga, Apple, Atari ST, IBM
Ultima VI (Origin Systems, Inc., 1990)
C64, IBM
War in Russia (Strategic Simulations, Inc., 1984)
Apple
Wasteland (Interplay Productions, Inc., 1986)
Apple, C-64, IBM
Wing Commander (Origin Systems, Inc., 1991)
Amiga, IBM, Sega
Wizardry (Sir-Tech Software, 1981)
Many Formats
Zork (Infocom, 1981)
Many Formats

SimCity

Maxis, 1987
Many Formats



Rejected by a software publisher because there was not enough game to it, *SimCity* established the genre known as "software toys." In *SimCity*, Will Wright followed his bliss—creating dynamic urban terrain—and transformed that joyful sense of discovery into a product that reflects reality, allows creativity, provides performance evaluation and entertains everyone.

Starflight

Electronic Arts, 1986
Amiga, C64, IBM, Macintosh, Sega



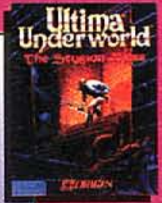
In addition to the elements of role-playing, exploration and economic management, *Starflight* was the first CRPG that required players to use a diplomatic strategy. The game featured some very alien races conceived in the very imaginative mind of Greg Johnson. Such rich NPCs offered additional suspension of disbelief beyond the fractal-generated planets that, themselves, provided a depth of reality to exploring the *Starflight* universe.

Top Adventure Games



	GAME	COMPANY	SCORE
1	Day of the Tentacle	LucasArts	10.24
2	Monkey Island 2: Le Chuck's	LucasArts	9.91
3	Indiana Jones: Fate of Atlantis	LucasArts	9.80
4	Quest for Glory III	Sierra	9.56
5	Sherlock Holmes CD	ICOM	9.55
6	The Seventh Guest	Virgin	9.42
7	Star Control II	Accolade	9.36
8	Les Manly in: Lost in L.A.	Accolade	9.28
9	Lost Files of Sherlock Holmes	Electronic Arts	9.20
10	King's Quest VI: Heir Today...	Sierra	9.14

Top Role Playing Games



	GAME	COMPANY	SCORE
1	Ultima Underworld	Origin	10.29
2	Betrayal at Krondor	Dynamix	10.08
3	Lands of Lore	Virgin	9.73
4	Might & Magic: Darkside of Xeen	New World Computing	9.55
5	Ultima Underworld II	Origin	9.47
6	Might & Magic III	New World Computing	9.41
7	Ultima VII	Origin	9.34
8	Eye of the Beholder II	SSI	9.34
9	Might & Magic: Clouds of Xeen	New World Computing	9.34
10	Wizardry VII: Crusaders of Savant	Sir-Tech	9.25

Top Simulation Games



	GAME	COMPANY	SCORE
1	X-Wing	LucasArts	9.83
2	World Circuit	MicroProse	9.77
3	Falcon 3.0	Spectrum HoloByte	9.59
4	Aces of the Pacific	Dynamix	9.42
5	Comanche: Maximum Overkill	NovaLogic	9.39
6	Secret Weapons of the Luftwaffe	LucasArts	9.19
7	MiG-29	Spectrum HoloByte	9.06
8	Red Storm Rising	MicroProse	9.04
9	Stunt Island	Disney	9.04
10	Silent Service II	MicroProse	9.03

Top Strategy Games



	GAME	COMPANY	SCORE
1	Solitaire's Journey	QQP	9.97
2	Dune II	Virgin	9.86
3	Syndicate	Electronic Arts	9.43
4	Chessmaster 3000	Software Toolworks	9.32
5	Hong Kong Mahjong Pro	Electronic Arts	9.13
6	The Lost Admiral	QQP	9.05
7	The Incredible Machine	Dynamix	8.98
8	Mech Warrior	Activision	8.94
9	The Island of Dr. Brain	Sierra	8.91
10	Hoyle Book of Games, Vol. 3	Sierra	8.78

COMPUTER GAMING WORLD
The #1 Computer Game Magazine

Top 100 Games

	Game	Company	Type	Score
1	Links 386 Pro	Access	SP	10.41
2	Ultima Underworld	Origin	RP	10.29
3	Day of the Tentacle	LucasArts	AD	10.24
4	Warlords II	SSG	WG	10.17
5	Betrayal at Krondor	Dynamix	RP	10.08
6	Wing Commander II	Origin	AC	10.04
7	Solitaire's Journey	QQP	ST	9.97
8	V for Victory: Gold Juno Sword	Three-Sixty Pacific	WG	9.96
9	V for Victory: Velikiye Luki	Three-Sixty Pacific	WG	9.93
10	Monkey Island 2: Le Chuck's Revenge	LucasArts	AD	9.91
11	Dune II	Virgin	ST	9.86
12	X-Wing	LucasArts	SI	9.83
13	Indiana Jones: Fate of Atlantis	LucasArts	AD	9.80
14	Front Page Sports Football	Dynamix	SP	9.78
15	World Circuit	MicroProse	SI	9.77
16	The Perfect General	QQP	WG	9.75
17	Lands of Lore	Virgin	RP	9.73
18	Carriers at War Construction Kit	SSG	WG	9.68
19	Conquered Kingdoms	QQP	WG,ST	9.63
	V for Victory: Utah Beach	Three-Sixty Pacific	WG	9.63
21	Falcon 3.0	Spectrum HoloByte	SI	9.59
	Wolfenstein 3-D	Id Software	AC	9.59
23	V For Victory: Market Garden	Three-Sixty Pacific	WG	9.58
24	Quest for Glory III	Sierra	AD,RP	9.56
25	Sherlock Holmes CD	ICOM	AD	9.55
	Might & Magic: Darkside of Xeen	New World Computing	RP	9.55
27	Links	Access	SP	9.47
	Ultima Underworld II	Origin	RP	9.47
29	Warlords	SSG	WG,ST	9.43
	Syndicate	Electronic Arts	ST,AC	9.43
31	The Seventh Guest	Virgin	AD	9.42
	Aces of the Pacific	Dynamix	SI	9.42
33	Might & Magic III	New World Computing	RP	9.41
34	Comanche: Maximum Overkill	NovaLogic	SI	9.39
35	War in Russia	SSI	WG	9.37
	Hardball III	Accolade	SP	9.37
37	Star Control II	Accolade	AD,AC	9.36
38	Pacific War	SSI	WG	9.34
	Might & Magic: Clouds of Xeen	New World Computing	RP	9.34
	Eye of the Beholder II	SSI	RP	9.34
	Ultima VII	Origin	RP	9.34
42	Chessmaster 3000	Software Toolworks	ST	9.32
43	Les Manly in: Lost in L.A.	Accolade	AD	9.28
44	Jack Nicklaus Signature Golf	Accolade	SP	9.27
45	Wizardry VII: Crusaders of Savant	Sir-Tech	RP	9.25
46	Lemmings	Psygnosis	AC,ST	9.21
47	Lost Files of Sherlock Holmes	Electronic Arts	AD	9.20
48	Secret Weapons of the Luftwaffe	LucasArts	SI	9.19
49	Second Front	SSI	WG	9.17
	Clash of Steel	SSI	WG	9.17

The Computer Gaming World Poll

A monthly survey of the readers of Computer Gaming World Magazine.

Top Wargames



	GAME	COMPANY	SCORE
1	Warlords II	SSG	10.17
2	V for Victory: Gold Juno Sword	Three-Sixty Pacific	9.96
3	V for Victory: Velikiye Luki	Three-Sixty Pacific	9.93
4	The Perfect General	QQP	9.75
5	Carriers at War Construction Kit	SSG	9.68
6	V for Victory: Utah Beach	Three-Sixty Pacific	9.63
7	Conquered Kingdoms	QQP	9.63
8	V For Victory: Market Garden	Three-Sixty Pacific	9.58
9	Warlords	SSG	9.43
10	War in Russia	SSI	9.37

Top Action Games



	GAME	COMPANY	SCORE
1	Wing Commander II	Origin	10.04
2	Wolfenstein 3-D	Id Software	9.59
3	Lemmings	Psygnosis	9.21
4	Tetris Classic	Spectrum HoloByte	9.14
5	Oh, No! More Lemmings	Psygnosis	8.92
6	Prince of Persia 2	Broderbund	8.60
7	Out of this World	Interplay	8.57
8	Flashback	SSI	8.52
9	Lemmings 2: The Tribes	Psygnosis	8.35
10	Spectre	Velocity	8.02

Top Sports Games



	GAME	COMPANY	SCORE
1	Links 386 Pro	Access	10.41
2	Front Page Sports Football	Dynamix	9.78
3	Links	Access	9.47
4	Hardball III	Accolade	9.37
5	Jack Nicklaus Signature Golf	Accolade	9.27
6	Tony La Russa Baseball II	SSI	8.89
7	NFL Pro League Football	Micro Sports	8.54
8	The Games: Winter Challenge	Accolade	8.50
9	PGA Tour Golf	Electronic Arts	8.49
10	4-D Boxing	Electronic Arts	8.37

Poll is based on reader survey cards in each issue of *CGW* and published two issues subsequent. Data on more than 100 games is archived and top ten lists may contain games which scored below the Top 100 cutoff.

51	Tetris Classic	Spectrum HoloByte	AC	9.14
	King's Quest VI: Heir Today...	Sierra	AD	9.14
53	Hong Kong Mahjong Pro	Electronic Arts	ST	9.13
54	The Castle of Dr. Brain	Sierra	AD	9.11
55	Eye of the Beholder	SSI	RP	9.10
56	The Dagger of Amon Ra	Sierra	AD	9.09
	Conflict: Korea	SSI	WG	9.09
58	Ultima VII: Part Two Serpent Isle	Origin	RP	9.08
59	Empire Deluxe	New World	WG	9.07
60	MiG-29	Spectrum HoloByte	SI	9.06
61	Bane of the Cosmic Forge	Sir-Tech	RP	9.05
	Quest for Glory I (VGA)	Sierra	AD,RP	9.05
	The Lost Admiral	QQP	ST	9.05
64	Stunt Island	Disney	SI	9.04
	Red Storm Rising	MicroProse	SI	9.04
	Eric the Unready	Legend	AD	9.04
	Conquests of the Longbow	Sierra	AD	9.04
68	Silent Service II	MicroProse	SI	9.03
69	Quest for Glory II	Sierra	AD,RP	9.02
	Gunship 2000	MicroProse	SI	9.02
71	Police Quest 3	Sierra	AD	9.01
72	Ultima V	Origin	RP	9.00
	Battles of Destiny	QQP	WG,ST	9.00
74	Space Quest IV	Sierra	AD	8.98
	The Incredible Machine	Dynamix	ST	8.98
	Western Front	SSI	WG	8.98
77	Carriers At War	SSG	WG	8.97
	Freddy Pharkas Frontier Pharmacist	Sierra	AD	8.97
79	The Adventures of Willy Beamish	Dynamix	AD	8.96
80	Alone in the Dark	I-Motion	AD	8.95
81	Chuck Yeager's Air Combat	Electronic Arts	SI	8.94
	Mech Warrior	Activision	ST,SI	8.94
83	F-117A	MicroProse	SI	8.92
	Oh, No! More Lemmings	Psygnosis	AC,ST	8.92
85	The Island of Dr. Brain	Sierra	ST	8.91
86	Tony La Russa Baseball II	SSI	SP	8.89
	Rise of the Dragon	Dynamix	AD	8.89
	Martian Memorandum	Access	AD	8.89
89	F-15 Strike Eagle III	MicroProse	SI	8.88
90	Indianapolis 500	Electronic Arts	SI	8.83
91	Elvira	Accolade	RP	8.82
92	Command HQ	MicroPlay	WG,ST	8.81
	Spellcasting 301: Spring Break	Legend	AD	8.81
94	Rex Nebular	MicroProse	AD	8.80
95	Gateway to the Savage Frontier	SSI	RP	8.79
96	Populous II	Electronic Arts	ST	8.78
	Hoyle Book of Games, Vol. 3	Sierra	ST	8.78
	High Command	Three-Sixty Pacific	WG	8.78
99	Heart of China	Dynamix	AD	8.75
100	Veil of Darkness	SSI	RP	8.74

Games on unnumbered lines have scores equal to the line above. (ribbon icon) = Top game of type. Magenta=New Game
AD=Adventure, RP=Role Playing, SI=Simulation, ST=Strategy, WG=Wargame, AC=Action, SP=Sports

PC Data Hits List Of Top-Selling Software

September, 1993

PC Games (MS-DOS)

Rank	Title and Source
1.	Microsoft Flight Simulator 5.0 (Microsoft Corporation)
2.	Privateer (Origin Systems, Inc.)
3.	Front Page Sports Football (Sierra On-Line, Inc.)
4.	X-Wing (LucasArts Entertainment)
5.	Street Fighter II (Hi Tech Expressions)
6.	Lands of Lore (Virgin Interactive Entertainment)
7.	X-Wing: Imperial Pursuit (LucasArts Entertainment)
8.	Wing Commander Academy (Origin Systems, Inc.)
9.	SimCity (Maxis Software)
10.	The 7th Guest (Virgin Interactive Entertainment)
11.	Links - Innisbrook (Access Software, Inc.)
12.	SimFarm (Maxis Software)
13.	Front Page Sports Football Pro (Sierra On-Line, Inc.)
14.	Betrayal at Krondor (Sierra On-Line, Inc.)
15.	Links 386 Pro (Access Software, Inc.)
16.	Warlords II (Strategic Studies Group)
17.	AD&D Dark Sun (Strategic Simulations, Inc.)
18.	SEAL Team (Electronic Arts)
19.	Wolfenstein 3-D/Spear of Destiny (Formgen)
20.	Ultima VII: Part 2/Silver Seed (Origin Systems, Inc.)

Amiga Games

Rank	Title and Source
1.	Overlord (Virgin Interactive Entertainment)
2.	Space Quest IV (Sierra On-Line, Inc.)
3.	688 Attack Sub (Electronic Arts)
4.	Leisure Suit Larry V (Sierra On-Line, Inc.)
5.	Heart of China (Sierra On-Line, Inc.)

Macintosh Games

Rank	Title and Source
1.	Star Trek; 25th Anniversary (Interplay Productions, Inc.)
2.	SimCity (Maxis Software)
3.	Prince of Persia (Brøderbund Software, Inc.)
4.	Microsoft Flight Simulator (Microsoft Corporation)
5.	King's Quest V/Red Baron Bundle (Sierra On-Line, Inc.)

CD-ROM Products

Rank	Title and Source
1.	The 7th Guest (Virgin Interactive Entertainment)
2.	ROMaterial (Moon Valley)
3.	King's Quest VI Upgrade (Sierra On-Line, Inc.)
4.	MPC Wizard (Aris Entertainment)
5.	Day of the Tentacle (LucasArts Entertainment)
6.	King's Quest VI (Sierra On-Line, Inc.)
7.	Indiana Jones and the Fate of Atlantis (LucasArts Entertainment)
8.	Just Grandma and Me (Brøderbund Software, Inc.)
9.	Compton's Encyclopedia Upgrade (Compton's New Media)
10.	Lord of the Rings (Interplay Productions, Inc.)

This list is based on units sold by ten retail chains, representing over 1300 stores. For more information, please contact PC Data at (703) 435-1025.

What You've Been Playing Lately

Every month our mailbox bulges with hundreds of Reader Input Cards from our most loyal and outspoken readers. Over the years we've found these cards to be an invaluable source of feedback. Within 10 days of releasing our latest issue we can expect to see cards pouring in with suggestions, encouragements, tirades and many good laughs, in addition to the data for our Top 100 poll. Through your efforts, we know *exactly* where we stand with our readers (you don't mince words!), and we are treated to well-articulated opinions on anything and everything related to gaming. This column is a forum for these responses and for the results of our "Playing Lately?" query on the Reader Input Card. Thanks for taking the time to fill them out...keep 'em coming!

Playing Lately? Results For CGW #112, November 1993

1. Privateer (Origin Systems, Inc.)
2. Warlords II (Strategic Studies Group)
3. Master of Orion (MicroProse, Inc.)
4. Betrayal at Krondor (Dynamix, Inc.)
5. X-wing (LucasArts Entertainment)
6. Lands of Lore (Westwood Studios)
7. Civilization (MicroProse, Inc.)
8. Front Page Sports Football Pro (Dynamix, Inc.)
9. Empire Deluxe (New World Computing)
10. Links 386 Pro (Access Software, Inc.)

Notable Quotables

"*Front Page Sports Football Pro* is reason enough to own a computer. What a game!"

A. Burke, Ft. Collins, CO

"*Strike Commander* has gone from a middle road challenge (easy to moderate) to a virtual impossibility in the add-on missions disk. I am curious as to other people's opinions on this. Hope to see some hints in some column before too long, because I gave up on it."

E. Araujo, Gloucester, MA

"As a former infantry platoon leader, I find *SEAL Team* to be a realistic small unit experience. By far the best game I have played."

J. Edwards, Sierra Vista, AZ

"*Stronghold* is not a good game—the hands on involvement for every detail is tiresome (except combat). I have enjoyed *Mule*, *Empire*, *Kampfgruppe*, the *Ultima* series, and others, including other SSI/*AD&D* games, but *Stronghold* was $45.00 down the drain."

F. Bell, Hermitage, TX

"Scorpia may be correct in panning *Darklands* (in her survey) but I've noticed that on the Internet no RPG has demonstrated as much staying power as this game. While discussion frequently centers on the newest and hottest game, time and time again people will mention the enjoyment they get from going back to *Darklands*."

C. McMath, Hillsboro, VA

"*Clash of Steel*, good! *High Command*, bad....very bad...."

D. Stafford, Dublin, OH

"I remember when I had 'a life and a wife' before I started *Betrayal at Krondor*."

B. Faust, N. Hollywood, CA

"*Betrayal at Krondor* is the best CRPG to hit the hard drive yet. Excellent concept! Easy to learn and a plot that won't stop!"

G. Emerson, Charleston, SC

"*Rules of Engagement 2* is the closest you'll ever get to actually controlling the Starship Enterprise. This game alone is a reason to own a computer."

K. Nosworthy, Pearl Harbor, HI

The Patch File

Computer game programs have grown so massive and the number of possible configurations has become so huge that incompatibilities and glitches seem to be breeding at an exponential rate. Consumers and publishers are both frustrated at the need for adding patches into "buggy" programs, but they seem to be an interim solution that is going to be with the hobby for a while (presumably, until a standard platform configuration is agreed upon). So, until the golden age of standardized platforms and bug-free programs, *Computer Gaming World* will publish a regular list of the latest updates of which we are aware.

These patches can usually be downloaded from most major networks (e.g., CompuServe or GEnie), but can also be obtained from individual software publisher's own BBSs or direct from the publisher with proof of purchase. We continue to urge publishers to keep us updated on the latest versions/patches to their games.

("**" indicates new files)

Air Bucks Version 1.21: Corrects lock-up and mouse compatibility problems. 8/06/93

** **Blue and The Gray V1.01 Update:** With this patch, poor quality units will now rout at 15% rather than 10%, transporting troops will not "pop" back into a train or ship, and the AI will now be tougher and quicker in battle. 10/23/93

Carriers at War Construction Kit Patch: Fixes the "CAP" bug and a few other minor problems. 7/13/93

** **Darksun Update:** Fixes problems with Wave Blaster and Sound Blaster + LAPC/SCC1. Eliminates the crash that may occur after the final battle, and random crashes when changing regions. 10/26/93

** **Empire Deluxe V3.11 Upgrade:** Updates Version 3.00 or 3.10 to Version 3.11. Corrects a number of minor bugs in the original DOS release. 9/14/93

** **Even More Incredible Machine Windows Patch:** Corrects several problems including these specific errors: "You cannot run more than one copy of this program" error message when in 256-color mode, and "RunTime Error: Stack Overflow" error message when *Windows* MIDI Mapper is not configured correctly. 10/19/93

Imperial Pursuit Fix: In the original version, it can be difficult to lock-on to a target with missiles under certain system configurations. This patch should correct this problem. 7/08/93

** **Take-A-Break! Pinball Patch:** Fixes the problem with the disappearing ball in the Endless Desert Temple Stone Wall trap. 8/24/93

Lands of Lore Version 1.11A Patch: Fixes a number of small bugs including the inability to retrieve Dawn's second key. 9/08/93

Lands of Lore Sound Card Patch: Allows multiple sound cards to be used at one time. Now includes Wave Blaster/Sound Blaster 16 support. You need this patch only if you use more than one sound card. 8/16/93

Links 386 Complete V1.11 Update: Contains both the *Links 386 Pro* EXE version 1.11 and a collection of new VESA drivers for various video cards. 9/03/93

** **NFL Coaches Club Football Update:** Corrects some rare problems, improves the AI, and adds some new features. 10/21/93

Omar Sharif on Bridge Upgrade (IBM/Windows): The latest version of Interplay's bridge game for *Windows*. 9/03/93

Patriot Version 1.1: The long-awaited patch to Three-Sixty's Gulf War simulation. 7/27/93

Realms of Arkania Update #1: Corrects the "Skeletarius" problem among others. 7/01/93

Red Sky at Morning V1.33: The latest versionof SimCan's new wargame. 9/18/93

** **Return of the Phantom CD-ROM Speech Fix:** Fixes digital speech repeat and echo due to an odd EMS configuration. 9/14/93

Rules of Engagement 2 Version 1.05: Latest version of the Omnitrend/Impressions' space war simulation. 8/01/93

Rules of Engagement 2 V1.05 to 1.06 Update: Patch for those having problems running the game with Viper graphics cards. 10/09/93

Rules of Engagement 2 Campaign Disk Update: Updates Campaign Disk 1 to version 1.01. This update adds 9 new *Breach 2* IGS links to the campaign "Operation Hammer." This update is only useful if you're playing the game in conjuction with *Breach 2*. 8/30/93

Shanghai II Version 1.04 Update (Mac): Resolves incompatibilities with *After Dark* and *SuperClock*, and fixes a 32-bit addressing problem. If you are getting random crashes or freezes, this update is for you. 8/20/93

** **Solitaire's Journey for Windows Patch:** Corrects minor bugs in the *Windows* version of *SJ*. 11/11/93

Strike Commander/Tactical Operations 1 Fix: Converts old *Strike Commander* save games to the *Tactical Operations* format. Only needed if you wish to run *Strike Commander* saves created prior to *Tactical Operations* installation. 9/30/93

** **Tony LaRussa II Version 1.2 Update:** Fixes include: the small replay accurately recreates the action on the field; injured players are now displayed on all roster screens in red; pitchers' errors will tally correctly; and the //.maj crash bug has been squashed. 11/05/93

** **Tornado 1.0 to 1.0c Upgrade:** An update for the US version of the game. 10/29/93

** **V For Victory 3.1 Upgrade (IBM):** Upgrades *Velikiye Luki* and *Market Garden* Versions 2.0 to Version 3.1. 8/19/93

** **V For Victory Utah Beach 2.0 Data Upgrade (IBM):** Upgrades *Utah Beach* to Version 3.1 8/19/93

** **V For Victory 3.11 Upgrade (Mac):** Upgrades *Velikiye Luki* and *Market Garden* to Version 3.11. 8/19/93

** **V For Victory Utah Beach 2.0 Data Upgrade (Mac):** Upgrades *Utah Beach* to Version 3.11. 8/19/93

** **V For Victory: Gold Juno Sword Version 4.01 (Mac):** Upgrades the Macintosh version 4.0 to 4.01. 8/28/93

War In Russia 1.1 Upgrade: Fixes three bugs and adds an enhancement. 10/04/93

Warlords Version 1.1.5 Update (Macintosh): Updates any version of *Warlords* Mac to V1.1.5. 10/09/93

Warlords II c1.02 to v1.02a Update: Fixes a bug with certain VGA cards (Diamond) and updates a few sound drivers, including PAS 16. 10/26/93

WW2: Battles of the South Pacific: Corrects a problem with the ranking system. 9/21/93

The PRODIGY Weekly Top Ten

Computer Gaming World is Prodigy's on-line games expert. Look for us in their Game Center, a forum where users read articles posted on-line by *CGW* and exchange messages on the bulletin boards (we can be reached there at EXPT40B). The Prodigy Game Poll is run by Prodigy based on a list of games provided by *CGW* and is updated weekly. Note that it is not a cumulative rating over time (like the *CGW* Top 100 Poll). Instead, the Prodigy Game Poll is a weekly "Snapshot" of game popularity with gamers rating their favorites on a 1 - 10 scale. The highest total point earners make their Top 10. We provide this data to our readers as another barometer of "what's hot" in computer gaming.





The Rumor Bag

by William R. J. "Trip" Faber III

Well, they said it couldn't be done, but I managed to finagle my way into the **3DO Developers Conference**. Security was so tight that, in order to get in, it wasn't enough to have your name on the list. You had to have a badge complete with photo ID. Well, I wasn't about to miss out on an opportunity to "Talk With Trip" or a chance to pick up one of those cool black bag/backpacks with the 3DO logo on it, so I told my editor I was going to weasel my way in under false pretenses.

"That you're a journalist?" asked my editor with his usual lack of tact. I immediately decided that I would prove his lack of confidence to be unfounded. After all, he couldn't possibly remain so sarcastic when I told him what I had found out about **Electronic Arts'** first 3DO titles, just from hanging out in the halls. I liked the one called *Escape from Monster Manor*. It's a first-person perspective *DOOM*-style game, using three-dimensional polygon-filled graphics. The big difference is that you blow up this haunted houseful of spooks with an ecto-gun type of weaponry. It was too early to see if they were going to texture map the graphics or not, but it moves fast and has some very interesting monsters.

We entered the room for the "Talk With Trip" and noticed how everything had been set up like a late night talk show. One of the EA guys said it looked like the set for *Twisted*, their 3DO game show parody that features "Wheel of Torture" and a number of diabolical ... well ... twists on the familiar game show format. Indeed, I couldn't help but wonder if those were old "You Bet Your Life" and "Queen for a Day" audiences who were pictured in between the different quiz and puzzle sequences in all their black and white video splendor.

What I didn't know, however, was that this presentation was going to be the longest session of the entire conference. The set may have looked like that of a late night television show, but I don't think Letterman has anything to worry about. One wag suggested that the session be called, "Stupid Developer Tricks," but I shut up when I felt the hostile glances boring through my bag. [Ed: And I thought the rumor guy was the only one who could bore through his bag!] I know when I'm in a tough room.

I managed to change the subject by passing a note asking if anyone knew anything about a product called *Zephyr*. It sounded like some kind of zen archery simulation for a VR game, but I got a note back explaining that it was **New World**'s new 3-D hovertank simulator.

That was news to me. The only **New World** title that I was aware of was *Inherit the Earth*. It's a graphic adventure being developed by David Joiner (*Faery Tale Adventure*). *Inherit the Earth* has the 3/4 perspective view used in *FTA*, but character interaction is the core of the story. By choosing from a menu of responses, gamers can advance the story line.

By this time, the conference session was running much longer than originally scheduled and a barrage of notes was landing on my lap. One said, "Is *Across the Rhine* really going to be a cartridge game from **MicroProse**?"

I scribbled a quick note that said, "That's what I was originally told, but whether it was or not, *Across the Rhine* is now going to be an MS-DOS simulation where gamers can jump around from tank-to-tank within a given battalion. I was also told that Arnold Hendrick was designing it. Now, I'm told that Jim Day is doing so."

One of the developers was reading over my shoulders as I wrote. "Don't forget to write down something about *Colonization*." I asked him what he was talking about and he explained to me that Jeff Briggs is working on that game and it is supposed to be built off lessons that the company learned from *Sid Meier's Civilization*.

Suddenly, my train of thought was interrupted by cries of "Take it off!" and I suddenly realized that everyone was looking at me. The real Trip had invited me up onto the stage and the developers wanted me to take off the bag that hides my perfect physiognomy. I sat down on one of the director's chairs on-stage and Trip asked me what was new in the industry.

I told him there were two new companies in the offing. Jeff Johannigman, producer of *Master of Orion*, and **Sim-Tex**, the developers of *MOO*, are planning to form **Excalibur Games**. The first release will be a "SimCity Goes to War" project. Also, James DeGoey, author of the *Harpoon Battlebook*, is planning to launch **Arsenal Games**. By April, **Arsenal Games** plans to release an operational level game of modern tactical armor and infantry. A turn-based wargame, it is expected to support modem play, as well as E-mail. Each turn of the game will represent 30 seconds of real-time and will feature air-to-air combat support resolved on-screen. The initial release will emphasize the U.S.M.C.

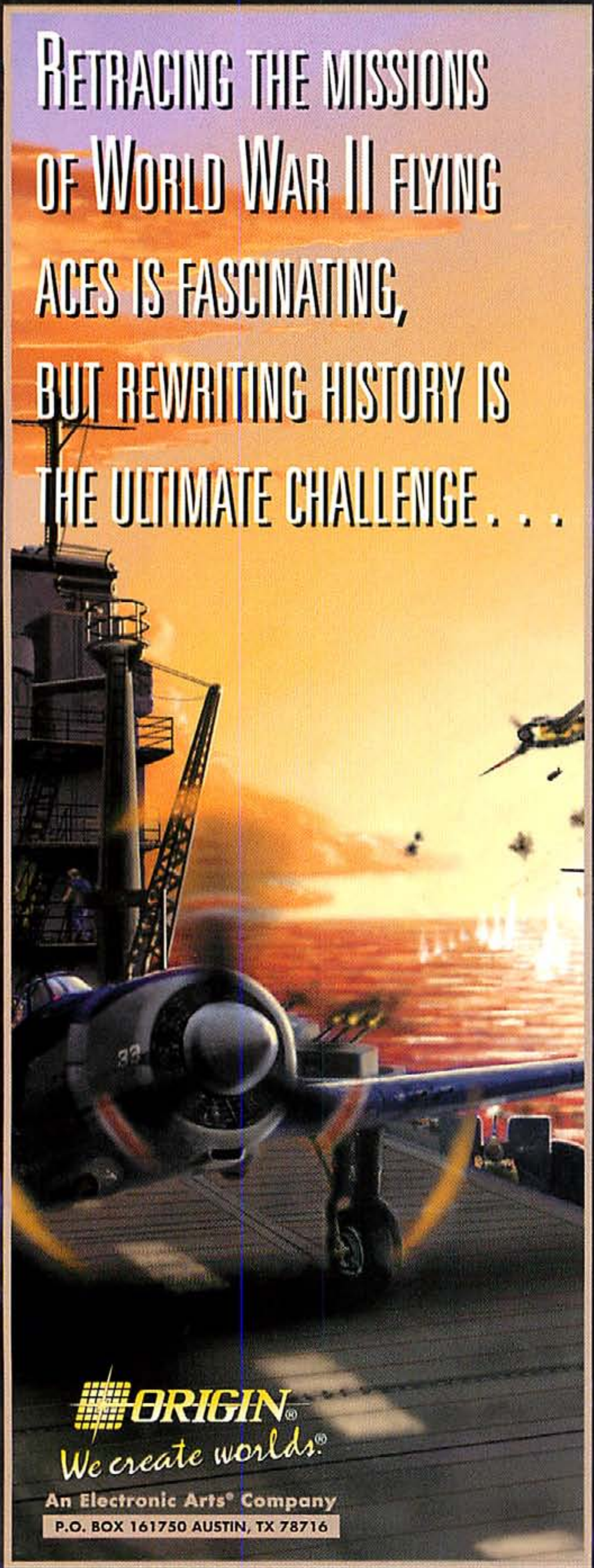
I didn't get off that easy, though. "Tell us about **Microsoft**," my host queried further.

I didn't really have any rumors about Microsoft, so I pulled one of the Stupid Journalist Tricks out of my mental briefcase. "I'm technically non-disclosured on all their projects, so I'll just have to tell you about a company close to Microsoft." I told them that **Mallard**, the company that does all those realistic scenery disks for *Microsoft Flight Simulator*, was about to ink a deal with *Sky Warrior*, one of those schools where civilians can dogfight in real planes.

With that news, the session was adjourned. Everyone was in good spirits and headed for lunch. Fact is, the race for lunch was very much like another 3DO game, *The Horde*. That's the new game from **Crystal Dynamics** where this horde of vile creatures tries to eat everything in its path and the gamer, as a medieval hero named Chauncey, has to stop it from eating his village.

In fact, the whole idea kind of makes me wish I had announced something scary like **Microsoft** is about to launch a new operating system for interactive multiplayers or something. Of course, if I'd said anything that stupid, I'd never be able to show my bag in the Silicon Valley again. **CGW**

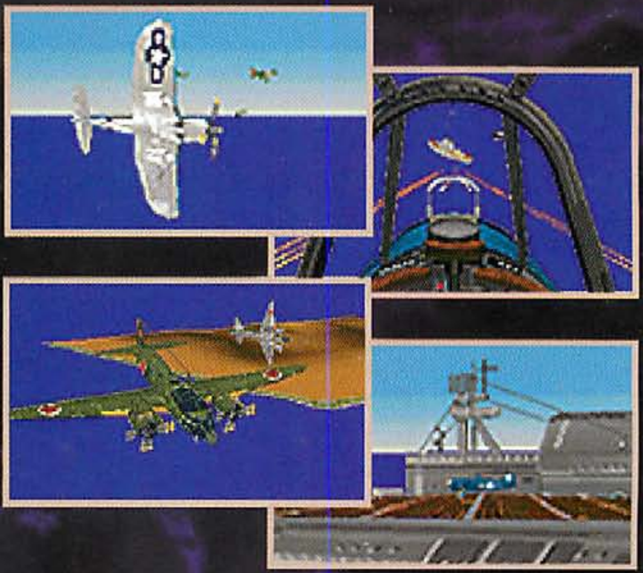

Its graphics are lush and colorful, with skewed perspectives and grotesque characters that could have been lifted from vintage Warner Brothers cartoons.
--COMPUTER GAMING WORLD
It's one of a kind and one in a million.
--COMPUTER GAME REVIEW
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